Vapor Intrusion Mitigation Work Plan

For

Valley Asphalt Property / South Dayton Dump & Landfill Site
Moraine, Ohio

Submitted to:
U.S. EPA, Region 5
Emergency Response Branch
Cincinnati, Ohio
OSC Steve Renninger

Report No. 161803-0413-099R3

July 8, 2013

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July 8, 2013

U.S. EPA
Emergency Response Branch
Cincinnati, Ohio
OSC Steve Renninger

RE: Report No. 161803-0413-099R3, Updated Final Vapor Intrusion Mitigation Work Plan for Valley Asphalt, 1901 and 1903 Dryden Road, Moraine

Via email and U.S.P.S

Dear Mr. Renninger:

Bowser-Morner is providing copies an updated final Vapor Intrusion Mitigation Work Plan for the Valley Asphalt site referenced above. This Work Plan, based on requirements of the Removal Action presented in the Unilateral Administrative Order issued to Valley Asphalt on March 22, 2013, has been updated as follows:

Revision	Date	Approved by	Comment
2	May 31, 2013	KHB & DC	Incorporation of EPA-required modifications, as per Conditional Approval Letter dated May 21, 2013.
3	July 8, 2013	KHB & DC	• Incorporate two (2) Addendums (as per EPA's request dated July 2, 2013); • Minor correction to text; • Update Form in Appendix L

Addendum 1 was prepared by Valley Asphalt and Valley Asphalt is solely responsible for changes to or content of Addendum 1.

This Work Plan was prepared in general accordance with the following documents:

- United States Environmental Protection Agency (EPA) Vapor Intrusion Investigation Work Plan (EPA, November 2011),
- USEPA Region 5 Vapor Intrusion Guidebook (EPA, 2010)(EPA Region 5 Guidance);
- Ohio Environmental Protection Agency (OEPA) Sample Collection and Evaluation of Vapor Intrusion to Indoor Air Guidance Document (OEPA, May 2010); and
- OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)(EPA, November 2002).

Valley Asphalt has initiated tasks outlined in Section 7.0, Project Schedule, of the Work Plan and will continue to implement this Removal Action according to the schedule.

Should you have any questions on the above, please do not hesitate to contact us.

Respectfully submitted,

BOWSER-MORNER, INC.

Katherine H. Beach

Katherine H. Beach, R. E.M.
Project Coordinator

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1.0 INTRODUCTION

Bowser-Morner Inc. prepared this Vapor Intrusion (V I) Mitigation Work Plan on behalf of Valley Asphalt, Respondent to the Removal Unilateral Administrative Order (UAO) issued by U.S. EPA (EPA) on March 22, 2013. This Work Plan details mitigation measures to address concentrations of volatile orga nic compounds (VOCs) and explosive gases detected in sub-slab soil vapor and indoor air in buildings owned by Valley Asphalt (Valley). The approved Work Plan is a fully enforceable part of the Order. A copy of the Order is enclosed as Appendix A.

Valley's property (Site) is an approximate 10-acre parcel that is located on a portion of the South Dayton Dump and Landfill site (SDDL site) in Moraine, Ohio. The SSDL is a former industrial waste landfill that con sists of approximately 80 acres, which accepted household wastes, drums, metal turnings, f ly ash, foundry sand, demolition debris, wooden pallets, asphalt, paint, paint thinn er, oils, break fluid, asbestos, solvents, transformers, and other industrial wastes. A group of potentially Responsible Parties (PRPs) is working a project parallel to Valley's in accordance with the Administrative Settlement Agreement and Order on Consent for Remov al Action (ASAOC) with EPA, for the SDDL site. The PRP group and their consult ant, known as "others" in this report, have provided much of the information found in this Work Plan.

This Work Plan was prepared in accordance with the following documents:

United States Environmental Protection Agency (EPA) Vapor Intrusion Investigation Work Plan (EPA, November 2011),

EPA Region 5 Vapor Intrusion Guidebook (EPA, 2010) (EPA Region 5 Guidance);

Ohio Environmental Protection Agency (OEPA) Sample Collection and Evaluation of Vapor Intrusion to Indoor Air Guidanc e Document (OEPA, May 2010); and

OSWER Draft Guidance for Evaluating the Vapor Intru sion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapo r Intrusion Guidance) (EPA, November 2002).

Bowser-Morner has also prepared this Work Plan to c omply with the substantive requirements of Ohio Administrative Code (OAC) 3745 -27-12 with respect to permanent monitoring for explosive gas in buildings location within the limits of waste. This mitigation work will be completed in accordance wit h Section 104(1)(1) of the Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA), 42 U.S.C §960 (a)(1), and 40 CFR §300.415 (Removal Action) of the National Oil and Hazardous Substances Pollution Contingency Plan (NC P) to abate or eliminate the immediate threats posed to public health and/or the environment.

Installation of the mitigation systems for VOCs and explosive gases will require approximately 100 calendar days after approval of t his Work Plan by EPA to complete, followed by regularly-scheduled performance testing activities. A Project Schedule, which details milestones and task duration, is presented in Section 7.

1.1 OBJECTIVES OF THE VI MITIGATION ACTIVITY

This VI Mitigation Plan is intended to directly add ress actual or potential releases of hazardous substances on the Site, which may pose an imminent and substantial endangerment to public health, or welfare, or the e nvironment. The VI Mitigation activity's primary objective is to design and insta ll a vapor abatement mitigation system in on-Site commercial structures impacted by subsur face gas migration, if the concentration(s) of contaminant(s) of concern (COCs) are greater than Ohio Department of Health (ODH)[1] sub-slab or indoor air screening levels and the pre sence of the COC is determined to be a result of vapor intrusion.

To achieve this objective, the following removal ac tivities will be completed at a minimum:

Develop and implement a Site Health and Safety Plan.

Conduct gas sampling (including VOCs and methane) u sing sub-slab and indoor air sampling techniques.

1 ODH Health Assessment Section provided screenin g levels for sub-slab and indoor air contaminants of concern in a letter dated July 6, 2012. ODH screening levels for naphthalene were provided by electronic mail (email) on September 13, 2012. Re vised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

Installation of a sub-slab depressurization system (SSDS), sealing cracks in walls and floors of the basement, and sealing drains that could be a pathway for vapor intrusion. The vapor mitigation systems will be designed to control levels of methane and VOCs to below ODH sub-slab and indoor air screening levels.

Develop and implement a proficiency sample plan to confirm that ODH screening levels are achieved for COCs following installation of on-site vapor mitigation systems. If ODH screening levels are not achieved within 30-days of installation, Valley will submit a Corrective Action Plan to EPA within 30 days of discovery.

Develop and implement an operations, maintenance and monitoring (OM&M) plan at buildings where SSDSs are installed, including a long term inspection and monitoring plan.

1.2 SITE DESCRIPTION

The SDDL site encompasses 1901 through 2153 Dryden Road and 2225 East River Road in Moraine, Ohio. Valley Asphalt purchased a portion of the site on May 7, 1993. For purposes of this report, the property owned by Valley will be referred to as the "Site". The Site has mailing addresses of 1901 and 1903 Dryden Road in Moraine, Ohio and is depicted in Figure 1.1. The Site is an irregularly-shaped property located in the northern portion of the SDDL site. The Site is bounded to the north and west by the Miami Conservancy District (MCD) floodway, the Great Miami River Recreational Trail and the Great Miami River (GMR) beyond. The Site is bounded to the east by Dryden Road and the SDDL site with light industrial facilities and residential properties beyond. The Site is bounded entirely to the south by the SDDL site.

The Site is currently occupied by Valley's Dryden Road asphalt plant facility. Until a few years ago, Murphy's Plumbing, a "squatter" who appears to have sold and stored ceramic bathroom fixtures and other plumbing supplies on-site, occupied a small portion of the northeast corner of the Site. In addition, a single-story block garage appears to straddle the Valley property line immediately adjacent and south of the entrance drive onto the site. According to Mark Fornes Realty, Jack Boesch owns this building, indentified as Building 7 in this (and previous) report(s).

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Valley's project encompasses the buildings shown in Table 1

TABLE 1

VALLEY ASPHALT BUILDINGS ADDRESSED IN MITIGATION PLAN

Building Number	Address	Use/Description
1	1901 Dryden Road	Former office building; 1500 square feet; slab-on-grade
2	1903 Dryden Road	Bricked-front area of the building previously was used as office space/rear area of building is used for storage; 4,888 square feet; slab-on-grade
4	1901 Dryden Road	Plant control building with basement; 280 square feet
5	1901 Dryden Road	Quality control building; 280 square feet; slab-on-grade
6	1901 Dryden Road	Pre-fab metal storage shed; 218 square feet; earthen floor
7	Dryden Road	Storage building owned by others; 822 square feet; appears to be slab-on-grade
MP	Dryden Road	Former plumbing supply; 365 square feet; undetermined construction

Commercial and industrial properties bound the SSDL site to the east and south including an approximate 30-acre maintenance facility owned by Dayton Power and Light (DP&L). Additional commercial and industrial properties are located on the opposite bank of the GMR to the northeast, north, northwest west and southwest. The Montgomery County Sewage Disposal facility is located on the opposite bank of the GMR, southwest from the Site.

Approximately 25,060 people live within a 4-mile radius of the Site. Residential properties exist more than 1,500 feet (ft) north of the Site beyond the opposite bank of the

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GMR. Other residential properties are located at least 1,000-feet south and southeast of the Site, along Dryden and East River Roads.

A landfill operated on the approximate 80-acre SDDL site from the 1940s until 1996. Municipal, commercial, industrial and residual wastes and construction and demolition (C&D) debris were disposed of at the landfill over the years. Combustible wastes were often burned.

First leased, then purchased, an asphalt plant has been operated by Valley on the Site since the mid-1950s. During that time, Valley has stored raw materials, batched asphalt, and conducted quality-related testing on-site and sold driveway sealer to the public.

COCs indentified in the fill, waste, and soil at the SDDL site consist of the following: VOCs including but not limited to trichlorethene (TCE), cis-1,2-dichloroethene (cis, 1-2,DCE), vinyl chloride (VC) and benzene; semi-volatile organic compounds (SVOCs) including, but not limited to, polynuclear aromatic hydrocarbons (PAHs) and naphthalene; polychlorinated biphenyls (PCBs); and metals including lead, copper, arsenic and other inorganic chemicals. Contaminants, including VOCs, arsenic, lead and some other chemicals detected in the landfill, have been detected in groundwater samples collected from a number of monitoring wells at and near the SDDL site. Napthalene and VOCs, including benzene, chlorobenzene, cis-1,2-DCE, isopropyl benzene, ethylbenzene, TCE and VC were also detected in sampled collected from soil gas probes throughout the SDDL site.

1.2.1 GEOLOGY, HYDROGEOLOGY, TOPOGRAPHY

The Dayton area is located within the buried pre-glacial valley system that underlies the present day GMR and its tributaries in southwestern Ohio. This pre-glacial valley system is knows as the Miami Valley Aquifer System. The regional overburden geology of the Dayton area consists of glacial tills and glaciofluvial sand and gravel

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deposits. Norris and Spieker (1966) defined the overburden units, based on general character and relative position as follows (from top to bottom):

> Ground Moraine (glacial till) – composed of silt, gravel and clay; found primarily in the uplands areas (not present at the Site);
>
> Upper Aquifer Zone – the saturated glaciofluvial sand and gravel zone located above a major till-rich zone;
>
> Till-Rich Zone – composed of discontinuous fine-grained glacial till and other fine-grained materials with substantial components of sand and gravel;
>
> Lower Aquifer Zone – the glaciofluvial sand and gravel zone located beneath the Till-Rich Zone.

The subsurface geology in the vicinity of the SDDL site consists of fill and waste underlain by glacial tills, and glaciofluvial sand and gravel deposits.

Norris and Spieker (1966) identified three principal hydrogeologic units in the Dayton area, as follows:

> Upper Aquifer Zone – the upper portion of the saturated glaciofluvial sand and gravel facies;
>
> Till-Rich Zone – a zone of discontinuous, low permeability till facies interspersed with sand and gravel facies which act as an aquitard in some areas;
>
> Lower Aquifer Zone – the lower portion of the saturated glaciofluvial sand and gravel facies.

The subsurface hydrostratigraphy in the vicinity of the SDDL site is consistent with the regional geology of the Miami Valley Aquifer System with the exception that the Till-Rich Zone is highly discontinuous beneath the SDDL site. Monitoring wells installed on the SDDL site are screened in sand and gravel deposits above approximately 675-ft above mean sea level (AMSL). These deposits appear to be representative of the Upper Aquifer Zone. Monitoring wells screened below 675 ft AMSL appear to be representative of the Lower Aquifer Zone. Due to the stratigraphic variation of the Till

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Rich Zone both vertically and laterally, the implied 675 ft AMSL boundary between the Upper and Lower Aquifer Zones is approximate and may vary in elevation across the Site.

Groundwater flow in the Upper Aquifer Zone is influenced by the presence of the GMR to the north and west of the Site. Shallow groundwater (i.e., Upper Aquifer Zone) typically flows radially towards the GMR. However, during extended periods of high flow in the GMR, groundwater flow slightly to the southeast has been documented. Basically, the stage of the GMR determines whether it is a gaining (effluent) or losing (influent) stream. For example, during flood events, groundwater flow is occasionally reversed and migrates from the GMR to the Site and the SSDL site.

Groundwater flow in the Lower Aquifer Zone is predominantly to the southwest in the area, with occasional slight southeasterly components, and is not significantly affected by the GMR. However, in areas where the intermediate till rich zone is absent, the upper and lower aquifer are in direct communication and the stage of the GMR will affect the flow in the lower aquifer zone. The groundwater level elevation in the vicinity of the Site is reported to between 700 and 725 AMSL at the Site.

A heavily vegetated man-made embankment is present along the northern and western boundary of the Site, along the GMR. The grassy area between the berm and the GMR is part of the 100-year floodway and is owned by the MCD. The topography of the Site is fairly level, due to grading activities. The largest stockpile, a recycled asphalt product (RAP) pile, rises approximately 40-feet above the ground surface. A paved roadway provides access from Dryden Road and along the northern portion of the Site. A majority of the Site's land surface is covered with stockpiles of raw materials.

The topography of the SDDL site is variable with embankments along the Great Miami Recreational Trail, an unpaved access road, a depressed area, several mounded areas of fill, a ravine and a low-lying area along the entire southern portion of the SDDL site.

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1.3 SITE HISTORY

From 1941 until 1993 various members of the Boesch and Grillot families owned the Site (and to the present, own a majority of the SSDL site) where waste disposal activities were conducted. The majority of the pro perties that comprise the SDDL site were acquired over time by Horace Boesch and Cyril Grillot.

The landfill operated from the early 1940s to 1996 and is partially filled sand and gravel pit. The landfill contains household waste, drums, metal turnings, fly ash, foundry sand, demolition material, wooden pallets, asphalt, paint, paint thinner, oils, brake fluids, asbestos, solvents, transformers and other industri al materials known to have been brought to the SDDL site. As the excavated areas o f the SDDL site were filled, some of the property was sold and/or leased to businesses a long Dryden and East River Roads. Valley purchase Parcel 5054, consisting of approximately 10– acres, in 1993. The Miami Conservancy District owns the southern part of the SDDL site.

Disposal of waste materials began at the SDDL site in the early 1940s. Materials dumped at the SDDL site included drummed wastes. K nown hazardous substances were brought to the SDDL site, including drums containin g hazardous waste from nearby facilities. Some of the drums contained cleaning s olvents (1,1,1-triochloroethane [TCA], methyl ethyl ketone [MEK], and xylenes); cutting oi ls; paint; Stoddard solvents; and machine-tool, water based coolants. The SDDL site previously accepted materials including oils, paint residue, brake fluids, chemic als for cleaning metals, solvents, etc. Large quantities of foundry sand and fly ash were d umped at the SDDL site. Asbestos was also reportedly dumped at the site.

EPA conducted a screening site inspection of the SD DL site in 1991. OEPA conducted a site team evaluation prioritization of the landfill in 1996. In 2002, EPA conducted an aerial photographic analysis of the SDDL site.

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In 1991, four underground storage tanks (USTs) were removed from the Site. Two 4,000-gallon steel USTs contained waste oil and gasoline, respectively. Two 3,000-gallon USTs contained diesel and kerosene, respectively.

In 2000, Valley Asphalt removed five drums containing characteristic hazardous waste, PCBs, VOCs and 2,217 tons of contaminated soils from the northern area of the Site that were uncovered during the excavation for a sewer line.

EPA proposed the SDDL site to the National Priorities List (NPL) in 2004. In 2008 to 2010, others completed several investigations at the SDDL site, including geophysical surveys, test pit and test trench sampling, vertical aquifer sampling, landfill gas sampling and groundwater monitoring well installation and sampling. From these investigations, the EPA determined that the groundwater beneath portions of the SDDL site contains vinyl chloride, TCE, 1,2-DCE, arsenic, lead and other chemicals. Based on the investigations, the remedial work to be completed on the SDDL site was divided into two parts. The remedial strategy for Operable Unit One (OU1), which is shown on Figure 1.2 and outlined in red, is expected to involve evaluating cleanup alternatives to address 55-acres of the landfill. Valley's Site lies within OU1 and the cleanup alternatives that are being considered will allow Valley to remain operating safely. In 2012, EPA, in consultation with OEPA, determined that additional data must be collected on groundwater and potential hot spots before selecting a remedy for OU1. Additional investigation and remedy evaluation is ongoing.

1.3.1 SITE HISTORY – VAPOR INTRUSION SAMPLING

Exterior Sampling Activities

In 2009 and 2010, others collected soil vapor samples from three permanently-installed soil vapor probes located on the Valley Site. Each soil vapor probe was located in exterior areas (as opposed to interiors of buildings). The samples were submitted to an accredited laboratory and analyzed for VOCs by EPA Method TO-15. Others compared the soil vapor sample results to generic soil vapor screening levels that were derived by

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applying the EPA Region 5 Guidance (EPA, 2010) default soil gas-to-indoor air attenuation factor of 0.1 to the EPA indoor air regional screening levels (RSLs). The VOCs detected in soil vapor samples at concentrations greater than the generic soil vapor screening levels were 1,1-dichloroethane (DCA); 1,1-dichloroethene, benzene; chlorobenzene; ethylbenzene; tetrachloroethene (PCE): vinyl chloride, trichloroethene, and total xylenes. Exceedances of the generic soil vapor screening levels occurred at all three of the permanently-installed Valley Site soil vapor probes.

Others completed field screening for methane at the exterior soil vapor probes in 2009. The soil vapor methane concentrations were compared to the upper explosive limit (UEL)(15 percent methane) and Lower Explosive limit (LEL)(5 percent methane) for methane. Methane concentrations were greater than 10 percent of the LEL (0.5 percent methane) at one of soil vapor probe locations on the Valley Site (Building 2).

Interior Sampling Activities

Indoor air and sub-slab sampling locations are summarized below.

Building 1

On August 6, 2012, the chemical trichloroethene (TCE) was observed in a sub-slab sample collected in Building 1 at a concentration of 2,700 ppbv. This result exceeds the ODH TCE sub-slab screening level of 20 ppbv. The chemical TCE was also observed in an indoor air sample at a concentration of 8.1 ppbv. This result exceeds the ODH TCE indoor air screening level of 2 ppbv. These results confirm that vapor intrusion is occurring in Building 1. The U.S. EPA and ODH have concluded that there is a potential public health threat posed by TCE vapor intrusion.

Building 2

On March 13, 2012, 6.6% methane was observed in a sub-slab sample collected from Building 2. This result exceeds the ODH methane screening level of 0.5%. While methane was not detected in the indoor air of Building 2, the U.S. EPA and ODH have

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concluded that there is a potential explosion hazard beneath this building because methane is explosive between 5 and 15%.

Building 2 is currently closed to access. In January 2012, appropriate notifications of the exceedance of the methane LEL were provided to EPA, OEPA, representatives of the Public Health - Dayton and Montgomery County (PHDMC), the City of Moraine Fire Division [2], and the Moraine Police Division. Others manually measure the indoor air and sub-slab methane concentrations at this building on a weekly basis to ensure that methane concentrations do not increase and that methane is not migrating from beneath the slab into the building. On January 24, 2013, one Sierra Gas monitor (model 2001) was installed in Building No. 2. At the present, others have proposed to install a battery back-up unit for the gas monitor. Once the battery back-up unit has been installed, weekly manual methane readings by others will be discontinued. Valley will conduct weekly checks of the gas monitor to ensure that it is operational and that sub-slab and indoor air methane levels are within acceptable ranges. The results of these checks will be documented on the Methane Monitoring log, included in Appendix B.

Building 4

In 2012, the chemical TCE was observed in 4 different sub-slab samples collected in Building 4. TCE concentrations ranged from 46 to 200 ppbv, which all four exceed the ODH TCE sub-slab screening level of 20 ppbv. The chemical TCE was not observed in the indoor air samples collected in Building 4 at concentrations greater than the ODH TCE indoor air screening level of 2 ppbv. These results show that at the time of each sampling event in 2012, vapor intrusion has not been documented in Building 4, but that there is the potential for vapor intrusion to occur in the future.

Although the compound acetaldehyde was detected in two indoor air samples at concentrations greater than the acetaldehyde ODH indoor air screening level, this

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compound was not detected in the co-located sub-slab soil vapor samples, indicating that the indoor air concentrations are not due to vapor intrusion.

Building 5

In 2012, the chemical TCE was observed in 3 different sub-slab samples collected in Building 5. TCE concentrations ranged from 240 to 700 ppbv, which all three exceed the ODH TCE sub-slab screening level of 20 ppbv. The chemical TCE was not observed in the indoor air samples collected in Building 5 at concentrations greater than the ODH TCE indoor air screening level of 2 ppbv. These results show that at the time of each sampling event in 2012, vapor intrusion has not been documented in Building 5, but that there is the potential for vapor intrusion to occur in the future.

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Building 6

In January and April 2012, CRA conducted field scre ening for methane in building 6. At each sampling event, CRA did not ob serve any methane detections beneath the subslab. Based on the field screening results collected from Building 6, the U.S. EPA will require sub-slab probe installation and TO-15 (VOC) analysis to determine if the building requires mitigation.

Building MP

On August 6, 2012, the chemical tetrachloroethene (PCE) was observed in an indoor air sample collected from the crawl space in Building MP at a concentration of 38 ppbv. This result exceeds the ODH PCE indoor air s creening level of 25 ppbv. This result confirms that vapor intrusion is occurring i n Building MP. Based on the PCE laboratory results of the indoor air (crawl space) sample collected from Building MP, the U.S. EPA and ODH conclude that there is a potential public health threat posed by PCE vapor intrusion.

The maximum sub-slab and indoor air concentrations (ppbv unless otherwise stated) that were greater than the ODH screening levels (ppbv unless otherwise stated) for each building sampled in 2012 are presented in Table 2.

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TABLE 2

HISTORIC SUB-SLAB AND INDOOR AIR SAMPLING RESULTS

Building Number	COC	Max Sub-Slab Concentration (ODH Screening Limit)	Max Indoor Air Concentration (ODH Screening Limit)
1	TCE	2,700 (20)	8.1 (2.0)
2	TCE Methane	32 (20) 6.6% (0.5%)	No exceedances
4	TCE	200 (20)	No exceedances
5	TCE	700 (20)	No exceedances
6	No monitoring known to have performed to date	No monitoring known to have performed to date	No monitoring known to have performed to date
7	No monitoring performed to date	No monitoring performed to date	No monitoring performed to date
MP PCE		No monitoring performed to date	38 (25)

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2.0 SITE MOBILIZATION

2.1 HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) has been established for this Site and is included in Appendix C. The HASP is a "living document" and procedures will be updated if additional information is discovered which requires alteration of the plan.

Site control measures are addressed as Section 5.11 of the HASP.

Sanitary facilities (i.e., Porta-Potty) are available near Building 4. A map to the hospital is posted on the inside of the primary man-door leading into Building 4. First aid kits are available in Building 4 and in Building 5. Nearby Weston offices (711 East Monument Avenue, Dayton, Ohio) will be available for meetings and emergency response.

2.2 PRE-WORK MEETING

A pre-work meeting will be held between Valley, EPA On-Scene Coordinator (OSC), ODH Licensed Radon contractor, and the other contractors to discuss this work plan, once approved by EPA. All participants will read and formally acknowledge the provisions of the HASP before initiating on-Site work. The following topics may be discussed in detail: provisions for Site security, mobilization, emergency procedures, delegation of responsibilities, and channels communication.

2.3 EMERGENCY PROCEDURES

Emergency procedures have been established for this Site. Emergency procedures provide specific guidelines and establish procedures for the protection of personnel in the event of an emergency. The emergency procedures included as Section 5.8 – 5.10 of the HASP.

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3.0 SAMPLING ACTIVITIES

A Quality Assurance Project Plan (QAPP) has been established for this Site, to ensure data collected during sample activities are reliable. A copy of the QAPP is included in Appendix D.

Field sampling activities required by the UAO will be completed in accordance with the sampling procedures, sampling plan, and associated analysis detailed below and in accordance with EPA-issued guidance documents.

Gas sampling activities may include one or more of the following: sub-slab soil vapor, ambient air, and/or indoor air samples. Gas samples will be collected, analyzed, and evaluated in accordance with the following procedures. Gas samples will be analyzed for the parameters included in the TO-15 list of analytes. All existing sub-slab soil vapor and indoor air sample locations for all on-Site buildings that require mitigation are presented on Figures 3.1 to 3.7.

3.1 SAMPLE COLLECTION

A sub-slab probe will be installed in Building 6. This probe will be installed and sampled in accordance with the EPA Response Engineering and Analytical Contract (REAC) SOP#2082 (Appendix J). The results of that investigation will determine whether mitigation of Building 6 is indicated.

Mitigation has been ordered for Buildings 1, 2, 4, 5, 7 and MP via the UAO. Valley has chosen to totally demolish Buildings 1, 7 and MP and to demolish the front (office) portion of Building 2. Therefore, mitigation, including sample collection, will be performed on Buildings 4 and 5 and the back (storage) portion of Building 2.

All SUMMA canisters used for indoor air sampling will be individually certified and all sub-slab samples will be batch certified (industrial and commercial buildings) by

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the analytical laboratory to ensure they are free of contamination before collecting the samples.

During sample collection, Valley will check each SUMMA canister periodically to ensure that the canister pressure has not reached zero; at a minimum, the canisters will be checked several hours before the end of the sampling period. In accordance with the sub-slab soil vapor sampling protocol (FSP), some residual vacuum should be left in each canister following sample collection. A minimum 1" Hg residual vacuum will be required for the sample to be considered valid, or the sampling will be repeated using a fresh SUMMA canister. In some instances, the canister pressure may decrease to below 5” Hg in less than the target amount of time. A SUMMA canister may be closed and sampling ended once the vacuum decreases below 5” Hg provided that at least 75 percent of the targeted sample time (i.e., 45 minutes for a 1-hour sample, 6 hours for an 8-hour sample, and 18 hours for a 24-hour sample) has elapsed. Provided the residual vacuum is a minimum of 1” Hg and the sample duration was at least 75 percent of the target duration, the sample will be considered a valid sample.

The target maximum residual vacuum is 5 inches of mercury (" Hg). If, after the required duration of sample collection (i.e., 8 hours for commercial and 24 hours for residential properties), the vacuum has not reached 5" Hg, the canister valve may be closed once the vacuum reaches a minimum of 10" Hg, as long as the specified duration of sample collection (i.e., 8 or 24 hours) has elapsed. This will be considered a valid sample.

If the vacuum has not reached 10" Hg and access to the building is ending for the day, Valley will notify EPA. If building access is provided for the following day, close the sample valve and record the canister vacuum and date. Return the following day, record the canister vacuum and date and complete sample collection. If building is not available for the following day, check with the laboratory if detection limits can be met and end sampling. If the detection limits cannot be achieved, re-sampling will be required.

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1 ODH Health Assessment Section provided screening levels for sub-slab and indoor air contaminants of concern in a letter dated July 6, 2012. ODH screening levels for naphthalene were provided by electronic mail (email) on September 13, 2012. Revised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

A summary of the acceptable sample canister end pressures and times is provided in the following table:

TABLE 3

SUMMA CANISTER SAMPLING PROCEDURES

Duration of Sampling	Sample Canister Vacuum	Required Procedure
Less than 6 Hours	Less than or equal to 5" Hg	Invalid sample. Collect new sample with new canister.
More than 6 Hours	Less than or equal to 5" Hg	Acceptable sample. End sampling.
Less than 8 Hours	Less than 10" Hg	Continue sampling until vacuum reaches 5" Hg, or 8 hours have elapsed, whichever occurs first.
More than 8 Hours	Greater than 10" Hg	End sampling when vacuum reaches 10" Hg.
Building access issues necessitate an end to sampling	Greater than 10" Hg	Notify EPA. Check if building access is available the next day. If building access is available the next day: Record canister end vacuum and date, close sample valve. Record day 2 canister start vacuum and date, continue sample. If building access is not available the next day: end sampling and check with laboratory if required detection limits can be met.

In accordance with the SOPs, canisters will be labeled noting the unique sample designation number, date, time, and sampler's initials. A bound field logbook will be maintained to record all sampling data. The unique sample designation numbers will have the following format:

MC -161803-MMDDYY-XX-Nn

Where:

MC (Matrix Code) – Designates sample type (SS - sub-slab soil vapor; IA - indoor air; OA - outdoor air; CS - crawl space)

161803 – Project reference number

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MMDDYYY – Designates date of collection presented as month, day, year

XX – Sampler's first and last initials

Nn – Building number followed by sample location

Details of the sampling will be recorded within a standard field book and on an

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Air Sampling Field Data Sheet Details should include:

SUMMA canister, flow controller and pressure gauge IDs
Sample start time and initial SUMMA canister pressure
Outside temperatures and barometric pressures
PID readings within the building
Helium leak test concentration
Sample end time and final SUMMA canister pressure
Unique sample designation number

If requested, a sub-slab sample and/or indoor air s ample will be collected where any new locations that may be identified as requiri ng sampling. Sub-slab samples will be collected from the soil vapor located beneath the c oncrete slab beneath the lowest level of the building.

Sampling will not be performed during storm events or within 48 hours of a significant rain event (i.e., greater than 1 inch o f rain in a 24-hour period) because of the potential influence such conditions may have on ind oor air, outdoor air, and sub-slab soil vapor. Information on weather conditions (includin g barometric pressure, air temperature, wind direction, and wind speed) in Mor aine, Ohio, during the sampling event will be obtained from Weather Underground's w ebsite. In fine-grained soil conditions, consideration will be given to allowing a greater amount of time for rainfall events to dissipate. The vadose zone soil types at the site are mainly sand and gravel fill, with some silt and clayey silt. Valley field techn icians, in consultation with EPA oversight consultants, will determine if more than 48 hours should be allowed to elapse following a significant rain event for probes in areas of fine grained soils.

1 ODH Health Assessment Section provided screenin g levels for sub-slab and indoor air contaminants of concern in a letter dated July 6, 2012. ODH screening levels for naphthalene were provided by electronic mail (email) on September 13, 2012. Re vised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

3.2 MITIGATION SYSTEM SAMPLING

3.2.1 PROFICIENCY AIR SAMPLING

To verify that the mitigation systems are operating to reduce indoor air concentrations of VI contaminants to less than applicable criteria, Valley will complete post-installation proficiency air sampling at 30 days, 180 days and 1 year following SSDS installation. The post-installation proficiency sampling will be comprised of three elements:

a. Collection and analysis of indoor air samples from each building mitigated;
b. Collection and analysis of outdoor samples adjacent to each building mitigated;
c. Collection and analysis of SSDS effluent samples from each building mitigated; and
d. Collection and analysis of sub-slab samples from each building mitigated.

Valley will collect air samples from the locations listed in Table 3, following system installation. Should the proposed sub-slab gas survey for Building 6 indicate that mitigation is necessary, that system will be included in the proficiency air sampling program.

TABLE 4
BUILDINGS REQUIRING MITIGATION AND PROFICIENCY SAMPLING

Parcel / Map Building Number	Address	Current Use
5054/2	1903 Dryden Road	Storage
5054/4	1901 Dryden Road	Asphalt Plant control building
5054/5	1901 Dryden Road	QA Building

3.2.1.1 INDOOR AIR PROFICIENCY SAMPLING

1 ODH Health Assessment Section provided screening levels for sub-slab and indoor air contaminants of concern in a letter dated July 6, 2012. ODH screening levels for naphthalene were provided by electronic mail (email) on September 13, 2012. Revised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

Valley will collect indoor air proficiency samples from all buildings in which SSDSs have been installed 30-days, 180-days and 1 year after installation of the SSDS. Beginning in the second year after installation of the mitigation systems, Valley will complete annual indoor air proficiency sampling at a subset of 20 percent of operating systems, equivalent to 1 sample, at a location approved by EPA prior to scheduling of the sampling for as long as the SSDSs remain operational. During the first year of the annual indoor air proficiency sampling program, Valley will collect the indoor air proficiency samples in the building with the greatest sub-slab soil vapor or indoor air concentrations. During subsequent years, Valley will propose locations and provide a rationale for sampling at the proposed locations for EPA approval prior to collecting the samples. Proficiency air sampling will continue until EPA notifies Valley that work is complete. Valley will provide the results and corresponding evaluation after each sampling event to EPA within 30 days of receiving the complete set of final analytical data.

In the event that proficiency air sampling indicates the system has not reduced or maintained concentrations below the applicable indoor air or sub-slab screening levels, a Corrective Action Plan will be submitted to EPA within 30 days. Corrective actions will include evaluation of the performance of the SSDS and completion any necessary system modifications. System modifications may include adding an additional extraction point(s), modifying the SSDS to an intrinsically safe SSDS (if methane is observed above the sub-slab or indoor air screening level), sealing cracks in the floors, and/or sealing or fixing drains or sub-slab sampling. All system modifications will be pre-approved by EPA prior to implementation. Following completion of system modifications, Valley will complete a follow-up indoor air and sub-slab sampling event within 30 days of completion of system modifications.

The proficiency sampling events will be performed by at least two Bowser Morner field staff and are anticipated to take approximately 1 week for each of the 30-day, 180-day, and 1-year sampling events. Valley will provide EPA with email notification regarding scheduling, a minimum of 2 weeks in advance of proficiency sampling events.

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3.2.1.2 OUTDOOR AIR SAMPLING

Outdoor air sampling will be performed concurrently with indoor air sampling. Where samples are collected from adjacent or nearby buildings, one outdoor air sample may be sufficient for comparison to the indoor air sample results from more than one building.

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3.2.1.3 SSDS EFFLUENT SAMPLING

Immediately following installation of the SSDSs, Valley will collect one grab air sample of the effluent from the SSDS located in Building 2, which currently contains the highest sub-slab soil vapor concentrations of TCE. The sample will be collected and analyzed in accordance with procedures detailed below.

3.2.1.4 SUB-SLAB PROFICIENCY SAMPLING

Immediately following installation of the SSDSs, Valley will collect one sample from the sub-slab port in each building with an SSDS. The sub-slab samples will be collected over an 8-hour time period. Sub-slab sampling will be performed concurrently with indoor air sampling at 30-days, 180-days and 1-year following installation of the SSDS. The samples will be collected and analyzed in accordance with procedures detailed in Sections 3.4 and 3.6 below.

3.2.1.5 DE MINIMIS EFFLUENT AIR SAMPLING

On May 13, 2013, Katherine Beach of Bowser Morner discussed de minimis emission and individual hazardous air pollutant (HAP) issues with Andy Roth of the Regional Air Pollution and Control Agency (RAPCA), by telephone and email.

Using conservative initial calculations provided by Andy Roth to Valeria Chan (of Conestoga Rovers & Associates) on January 14, 2013, a flow rate resulting in de minimus emissions was calculated. Based on the greatest sub-slab TCE concentration of 2,700 ppbv (measured in a sample collected from 1901 Dryden Road, Building 1), a total SSDS flow rate of 4,100 ft^3/min or less conforms to the Ohio EPA de minimis HAP emission rate of one ton per year. Accordingly, provided the total SSDS flow rate is equal to or less than 4,100 ft^3/min, and maximum sub-slab soil vapor TCE concentration does not exceed 2,700 ppbv, submittal of an air permit application or performance of effluent air sampling is not required by RAPCA. In accordance with EPA's request to

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others to collect an annual sample of the effluent from the SSDS at the location with the highest sub-slab soil vapor concentrations of TCE, Valley will do the same.

Immediately following installation of the SSDSs, Valley will collect one air grab sample from the discharge sampling port(s) (i.e., each location where there is a fan/blower) of the building with the greatest sub-slab TCE concentration (i.e., Building 2) annually. The sample(s) will be collected and analyzed in accordance with procedures detailed in Section 3.6 below. In addition, Valley will collect one de minimis air sample annually from the building with the greatest sub-slab TCE concentration (based on the most recent sample results available at the time), for the duration of system operation.

In addition to the collection of air samples, velocity readings will be measured at each exhaust pipe with a velocity meter. Flow rates will be calculated for each emission discharge point. The flow rate and analytical data will be used to calculate the approximately daily, monthly, and yearly emission amounts. As a conservative measure, the preliminary calculations will assume that all buildings discharge at the same rate as the worst-case building.

The effluent air sample results will be compared to State of Ohio de minimis levels, documented in Ohio Administrative Code 3745-15-05, to determine if other regulatory requirements apply.

3.3 INDOOR AIR SAMPLING

As noted in Section 3.2.1 above, indoor sampling will be performed in accordance with the SOP for indoor and outdoor air sampling. For buildings to be mitigated that have an area less than 1,500 square feet; only one indoor air sample will be collected. For buildings with areas greater than 1,500 square feet, one or more indoor air samples will be collected.

In June 2011, December 2011 and July 2012, representatives of CH2M Hill, OEPA, Valley and CRA completed building surveys at the parcels associated with the

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SDDL. The building surveys were completed in order to gather the information necessary to develop VI-specific CSMs for each VI Study building. The building survey included collection of data related to indoor air quality such as use or storage of cleaning products, paints, and/or petroleum hydrocarbon products, aerosol consumer products, smoking, etc.

Before sampling, the buildings will be resurveyed to determine if conditions have changed since the building surveys. Undifferentiated VOC concentrations will be measured using a ppbRAE®, or equivalent, and recorded during the building resurveys to identify potential indoor air sources or the general location of potential indoor air sources. Where possible and reasonable, the indoor air sources will be removed or containerized from the buildings prior to proficiency air sampling. The Building Physical Survey Questionnaire (Form 1) will be updated as necessary for each building. The completed Building Physical Survey Questionnaires for the buildings requiring mitigation are provided in Appendix E. The Building Physical Survey Questionnaire Form 1 is provided in Appendix H1.

Typically, the intake point of the indoor air sample canisters will be located at the breathing zone height, between approximately 3 to 5 feet (1 to 1.5 meters) above floor level, in the lowest level of the property (i.e., basement or first floor for slab on grade buildings). Valley will situate the indoor air sample canister as close as practical to the location of the original indoor air samples collected during the 2012 Vapor Intrusion Investigation. Valley will endeavor to situate the canisters in areas that are not subject to disturbances or locations that interfere with the occupants' operational activities which may lead to a false indication of an indoor air issue. Valley will collect indoor air samples at the actual or contingency indoor air locations specified in the figures for buildings with installed active SSDSs (Figures 3.1 through 3.7).

When indoor air samples are collected, Valley will also collect an outdoor air sample in the vicinity of the structure, as per Valley's SOP. Where samples are collected

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from adjacent or nearby buildings, one outdoor air sample may be sufficient for comparison to the indoor air sample results from more than one building.

Information on weather conditions (including barometric pressure, air temperature, wind direction, and wind speed) in Dayton, Ohio during the sampling event will be obtained from the National Weather Service Forecast Office or National Climatic Data Center website.

3.4 SUB-SLAB SOIL VAPOR PROBE SAMPLING

Sub-slab soil vapor probe installation and sampling , will be performed in accordance with the REAC SOP or by using vapor pins . For Buildings 4 and 5, with a surface area less than 1,500 square feet; only one sub-slab port exists and will be tested. The back (storage) portion of Building 2 consists of approximately 3,500 square feet and currently contains a single sub-slab port. Depending on the SSDS design selection, up to six additional sub-slab ports may be installed and sampled.

Valley will complete leak testing prior to sub-slab soil vapor probe sample collection by injecting helium into a shroud covering the sub-slab probe, and monitoring for the presence of helium in the purged sub-slab soil vapor using a field meter.

Valley will purge stagnant air from the sub-slab soil vapor probes into Tedlar bags using a lung box sampler and pump. Valley will purge one to two liters of sub-slab soil vapor from the probe assembly, into a Tedlar bag. One liter of sub-slab soil vapor will be greater than three volumes from the sub-slab soil vapor probe assembly (probe and attached Teflon® tubing). This ensures that the sub-slab soil vapor sample is representative of actual vapor concentrations within the sub-slab bedding material.

In order to assess susceptibility of soil gas entry into a building, Valley will use a ppbRAE (or equivalent) and LandTec GEM 2000, or equivalent, to directly survey preferential pathways for vapor migration (i.e. utility penetrations, cracks, sumps, floor

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drains, earthen floors, etc.). Readings will be recorded on the Air Sampling Field Data Sheet (Appendix L).

Information on weather conditions (including barometric pressure, air temperature, wind direction, and wind speed) in Dayton, Ohio during the sampling event will be obtained from the National Weather Service Forecast Office or National Climatic Data Center website and will be recorded on the Air Sampling Field Data Sheet.

3.4.1 SUB-SLAB SOIL VAPOR PROBE SAMPLING FOR METHANE

Following purging and leak checking of the sub-slab soil vapor probe, Valley will collect a second Tedlar bag sample of sub-slab soil vapor to measure post-purge/pre-sample values of methane, lower explosive limit (LEL), oxygen, and carbon dioxide, using appropriate meters. The Tedlar bag will be field screened and emptied outside the building to avoid releasing contaminants within the building. The information will be documented on the Air Sampling Field Data Sheet.

The required sub-slab soil vapor samples will then be collected into 6-Liter SUMMA Canisters. Following sample collection, Valley will collect sub-slab soil vapor from the probes into Tedlar bags with a lung box sampler and pump in order to measure post-sample methane, carbon dioxide, and oxygen values.

The following information from the EPA (2005) Guidance for Evaluating Landfill Gas Emissions from Closed or Abandoned Facilities will be considered when selecting times for measuring methane levels: "Highest methane concentrations occur in the warmer summer months, and concentrations are higher during the heat of the day compared to measurements taken during morning hours. Landfill gas levels in soils tend to be higher during dry periods and lower after significant rainfall events."

Total VOCs in sub-slab soil vapor will be measured with a photoionization detector (PID) each time the methane, carbon dioxide, and oxygen concentrations are measured at each probe.

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Valley will measure the levels of methane, carbon dioxide and oxygen using a portable combustible gas meter, specifically LandTec GEM 2000, or equivalent. Valley will measure filtered and unfiltered combustible gases with the LandTec GEM 2000. The LandTec GEM 2000 filtered measurements will be collected using a charcoal carbon filter. LandTec GEM 2000 reports the concentration of methane in units of percentage of the LEL of methane (i.e., 0 to 100 percent of LEL). The LandTec GEM 2000 measures the concentrations of oxygen, carbon dioxide, and carbon monoxide. The greatest values obtained during sampling will be recorded.

To confirm detections of methane using field instruments, separate sub-slab soil vapor or indoor air samples collected in SUMMA canisters will be submitted for analysis of fixed gases (methane, ethane, and Vthane) by ASTM Method D1946. The confirmatory samples will be used to verify the detected methane readings measured with the field meters. If methane concentrations in indoor air are measured with the field meter above 25 percent of the lower explosive limit (i.e., 1.25% methane), an immediate or rapid response will be necessary to eliminate the explosive hazard and confirmatory laboratory samples aren't necessary.

3.5 QUALITY ASSURANCE / QUALITY CONTROL SAMPLES

Field duplicate samples will be collected at a frequency of 10 percent per sample media for VOC analysis. The sample media are (1) sub-slab soil vapor and (2) indoor air and outdoor air. Duplicate samples will be collected in the same manner and from the same location as the normal samples are collected. A stainless-steel T-connector will be used to connect two SUMMA canisters together so the parent and duplicate sample are collected concurrently from the same intake.

Quality assurance (QA)/quality control (QC) for the methane field screening results will be accomplished by: 1) measuring methane twice, at least 8 hours apart, at each sub-slab soil vapor and indoor air sample location; 2) submitting 20 percent of the

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sub-slab soil vapor SUMMA canisters and 20 percent of the indoor air SUMMA canisters for laboratory analysis of methane by ASTM Method D1946.

EPA reserves the right to collect split sub-slab or side-by-side indoor air for any sample collected at the Site. The split samples will be collected in the same manner as duplicate samples.

3.6 SAMPLE ANALYSIS

The sub-slab, indoor air and outdoor air samples for VOC analysis will be collected in 6-liter SUMMA canisters equipped with flow controllers set to collect the samples over an 8-hour period for industrial and commercial buildings.

The SSDS effluent grab samples for VOC analysis will be collected in 1-liter SUMMA canisters. Grab samples will be collected directly from the SSDS effluent sample ports of the building with the greatest sub-slab TCE concentration (based on the most recent sample results available at the time), for the duration of system operation. At each sampling port location, the male plug will be removed and silicon tubing will be attached to the sampling port and replaced with a male fitting with silicon tubing. The fitting will be attached from the SSDS regulator to the tubing attached to the sample port. The SUMMA canister will be attached to the regulator. The sample port will be closed when the vacuum reading is between -10 to -1 "Hg. The grab sampler will be removed from the SUMMA canister; the fitting/tubing will be removed from the sample port and regulator. The male plug will be resecured to the sample port.

Valley will submit SUMMA canister samples under chain of custody protocols to the laboratory for VOC analysis in accordance with EPA Method TO-15. The full TO-15 list will be reported for each sample. If required, to confirm detected methane field readings, samples collected in SUMMA canisters will be submitted for analysis of fixed gases (methane, ethane, Vthane) by ASTM Method D1946. EPA may request split samples at any sample location.

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3.7 CLEANUP CRITERIA

Valley will evaluate analytical results against ODH indoor air and sub-slab soil gas screening levels for non-residential locations (Appendix K). ODH screening levels for naphthalene were provided by electronic mail (e mail) on September 13, 2012. Revised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

Valley will design and install a vapor mitigation s ystem in non-residential (commercial) structures impacted by subsurface gas migration, if the concentration(s) of COCs are greater than ODH sub-slab or indoor air sc reening levels and the presence of the COC is determined to be a result of vapor intrusion.

4.0 MITIGATION PLAN

One of the primary objectives of the VI Mitigation Activity is to design and install a vapor mitigation system in on-Site non-residenti al (i.e., commercial) structures impacted by subsurface gas mitigation, if the conce ntration(s) of COC(s) exceed ODH sub-slab or indoor air screening levels and the presence of the COC(s) is determined to be a result of vapor intrusion. Section 4.6 presents a summary of all buildings sampled during the VI Investigation and the associated miti gation decisions. The "Mitigation Summary Database" Excel file used to track the prog ress of mitigation is a living document, and the version current as of the date of Work Plan, is included as Appendix F. This document will be updated as needed through out the VI Mitigation Activity in order to reflect the status of the mitigation and any new information received.

Valley proposes to demolish Building 1, the brick f ront office space associated with Building 2, Building 7 and the MP Building fol lowing results of asbestos and lead sampling. Demolition will follow local codes/permi ts including management of debris. Therefore, Valley will focus mitigation activities on the back (storage) area of Building 2

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and on Buildings 4 and 5. Currently, mitigation ac tivities are not planned for Building 6; sub-slab monitoring will determine the appropriate course of future action.

Beginning on May 2, 2013, EPA, EPA's START contract or, Valley and Bowser Morner will participate in weekly update conference calls regarding the Mitigation Summary Database and next steps. Appendix G presen ts the meeting agenda and meeting minute templates for the weekly conference calls.

The abatement system will include installation of a SSDS, sealing cracks in walls and floors of the basement or lowest building floor , and sealing drains that could be a pathway. Building 2, the only structure with sub-s lab methane concentrations greater than 0.5 percent by volume, will require an intrins ically safe SSDS. The selected intrinsically safe devices will be designed to prev ent the release of sufficient energy, by either thermal or electrical means, to cause igniti on of flammable gasses. The selected device(s) will bear the appropriate marking (Factor y Mutual CSA, Ex, etc.). Active SSDSs will be designed and installed in the specifi ed buildings to reduce potential indoor air inhalation issues. This is achieved by creatin g a lower air pressure beneath the floor slab than above the floor slab. Valley will work c losely with an ODH Licensed Radon Contactor who will be responsible for ensuring prop er installation and operation of the systems. The scope of the work for the SSDSs will include:

Task 1 – Conduct a building inspection / engineering evaluation.

Task 2 – Design SSDS and submit designs to EPA for approval.

Task 3 – Install SSDS

Task 4 – Develop a Mitigation Proficiency Sampling Plan

Task 5 – Perform Proficiency Sampling and Annual Inspections/Maintenance.

4.1 TASK 1 – CONDUCT BUILDING INSPECTION AND ENGINEERING EVALUATIONS

Valley will review and confirm building plans and b lueprints, if available, and conduct pre-design building inspections. This will include evaluation of the building

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layouts and construction components including HVAC, electrical and structural. Of particular interest are the building foundations, sub-slab layouts and orientations including materials of construction, utility connections and conduit layouts for future design purposes. Sealing of cracks may be completed at this stage, if appropriate.

4.2 TASK 2 – DESIGN SUB-SLAB DEPRESSURIZATION SYSTEM

The information obtained from the Building Physical Survey and sub-slab probe installation(s) will be used to prepare conceptual layout design drawings. The system design will include the number and location of extraction points, pipe routing, discharge point(s), fan location(s), and fan sizing. The basic design requirements will be prepared to a level acceptable for use for contractor bidding purposes. One or more contractors will participate in inspections of the buildings or, at the contractor's discretion, will agree to rely on inspections of the buildings completed by others. Following the building inspections, the contractor will prepare a Design Plan, which, after it is approved by Valley and Bowser Morner, will be submitted to EPA for approval prior to installation. The designs will be based on SDDL-specific instruction provided by EPA, industry standards, local code, and manufacturer information regarding equipment performance for an active depressurization system. In this case, for buildings with areas less than 1,500 square feet, one SSDS will be installed. For buildings with areas greater than 1,500 square feet, one or more SSDSs and/or extraction pipes will be installed. The number of SSDS and/or extraction pipes will be dependant upon the building configuration and locations will be chosen to minimize disruption to business operations.

Following receipt of EPA approval, the contractors will proceed with the installation.

Following completion of the installation, a Mitigation System As-built Report will be submitted to EPA. This Mitigation System As-built Report will be included in the operation, maintenance & monitoring (OM&M) manual. These reports will contain the following information:

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Data from the vacuum-radius of influence testing, including sub-slab vacuum and flow measurements

Figure(s) showing the number of extraction locations and performance monitoring points

Figure(s) showing the route of the discharge piping system(s) and the location of the exhaust fan(s) for each building

Identification of materials and equipment used for each system (piping, blower, sizing, vacuum monitoring, valving, etc.)

Procedures for startup and performance testing following system installation.

Operational goals and objectives including radius of influence and vacuum field monitoring point vacuums

An intrinsically safe system will be installed at properties which have methane beneath the sub-slab greater than 0.5 percent by volume.

A visual inspection will be completed to verify that no air intakes have been located near the proposed exhaust discharge point(s).

Following receipt of approval of the mitigation system design by EPA, Valley will solicit contractor proposals, and undertake contractor procurement. As noted above, the contractor will be a licensed ODH Licensed Radon Contractor. In the event that a design-build approach is adopted, Valley will solicit contractor proposals prior to commencing the design and will commence installation of the SSDS following receipt of approval from EPA.

4.3 TASK 3 – INSTALL THE SSDS

The SSDS in each building may consist of multiple vapor extraction points based on square footage and radius of influence testing. Either fan(s) or larger blower(s) connected to extraction point(s) will be installed outside the building, mounted directly on the system piping and fastened to a supporting structure by means of mounting brackets. The fan(s) or blower (s) will operate continuously to pull a vacuum from the

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vapor recovery point(s). The vapors will discharge to the outdoor air above the building roof and highest building window per local code. This will allow any VOCs present to dissipate more readily. As methane is lighter than air, discharging the gases above the roof top ensures that any methane that may be present will not create a localized explosion hazard near the ground surface where potential ignition sources could ignite it. A sample port and an air-velocity monitoring access point will be installed in the discharge pipe at least two feet away from any constrictions (i.e., bends, elbows, etc.) and after (i.e., above) the fan. A common external fuse panel will be considered to power the SSDS system(s). All exterior electrical panels must be weatherproof, must provide an uninterruptable power source, and be secured with a lock and tamper-proof box. Equipment used to install the SSDS beneath buildings where explosive gases are present in the sub-slab vapor at concentrations greater than 10 percent of the LEL or where no sub-slab explosive gas data are available will be intrinsically safe, because of potential explosive hazards.

Permanent vacuum monitoring points will be installed for each system, on the suction side of the fan. A permanent vacuum gauge will consist of a "U-tube" manometer, or similar device, with a minimum vacuum of 1 inch of water. The permanent vacuum monitoring points will document that the sub-slab beneath the entire building has been depressurized. Valley will verify that manometer vacuum is in the range of 1 or 4 inches of water ("w.c."), and will mark the operating vacuum on the manometer. The vacuum will be set to the minimum required to depressurize the entire slab and is expected to be in the range of 1 or 2" w.c. The number of vacuum monitoring points will be determined during the design process.

Following the installation of the SSDSs, the radius of influence of each system will be checked using a digital manometer to determine if a vacuum is applied across the entire building slab. The digital manometer can be used at the sub-slab soil vapor probe locations, provided that they are located on opposite sides of the slab from the suction point. Additional sub-slab depressurization points and monitoring points can be installed if the resulting vacuum proves insufficient or more monitoring points are required.

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EPA 2008 guidance document titled "Indoor Air Vapor Intrusion Mitigation Approaches" states that the generally accepted target range for depressurization is 4 to 10 pascals or 0.0161 to 0.04" w.c., with a nominal continuous operating range of depressurization from 0.025 to 0.035" w.c. for standard permeability sub-slab material. However, differential pressure ranges as low as 0.001" w.c. are sufficient to effectively depressurize a sub-slab, according to EPA 1993 guidance "Radon Reduction Techniques for Existing Detached Houses: Technical Guidance for Active Soil Depressurization Systems".

If the digital manometer shows a vacuum reading of negative 0.004" w.c. below the slab, then there are sufficient indications that the active system is successfully depressurizing the sub-slab area across the footprint of the building. During the operation and monitoring of the SSDSs, Valley will compare the vacuum measurements to the appropriate ranges, and if necessary, make adjustments to the SSDSs.

The following information will be recorded to define the operating performance of the SSDSs:

Location of the sub-slab sample points

Initial sub-slab pressure field measurements

Static pressure at each permanent vacuum monitoring point (U-tube manometer readings)

Static pressure at the fan inlet

Photos of the SSDS header and fan

Valley will annually check the system components following completion of system installations. If Valley notices damage to the SSDS or the system is not functioning within the range marked on the permanent vacuum monitoring points, they will call a Bowser Morner contact. Labels on the system components will list a telephone number for a Bowser Morner contact.

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Any gaps around the extraction point penetration and utility penetrations through the foundation floor will be appropriately sealed. Other opening and cracks in the foundation will be sealed where necessary and feasible.

As specified in Section 3.2.1.3 above, Valley will collect an effluent air sample from the extraction pipe of the building with the greatest sub-slab TCE concentration on an annual basis. The effluent air sample results will be compared to State of Ohio de minimis levels, documented in OAC 3745-15-05, to determine if off-gas treatment is required.

4.4 TASK 4 – DEVELOP A MITIGATION PROFICIENCY SAMPLING PLAN

A Mitigation Performance Sampling Plan will be developed and will include provisions for monitoring the SSDSs immediately after system start-up to document that the sub-slab beneath each mitigated building has been depressurized, as well as to document continuous and long-term reduction of indoor air concentrations of VI contaminants to less than applicable criteria.

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4.5 TASK 5 – PERFORM PROFICIENCY SAMPLING AND ANNUAL INSPECTIONS/MAINTENANCE

MONITORING PROGRAM

Valley will complete system startup monitoring to document that the sub-slab beneath the entire area of concern in each building has been depressurized. The system startup monitoring will consist of monitoring and recording the vacuum at each of the vacuum monitoring points in each building using a digital manometer immediately following start-up.

To verify that the mitigation systems are operating to reduce sub-slab concentrations of VI contaminants beneath the slabs of intact buildings to less than applicable ODH screening levels, Valley will complete post-installation proficiency sub-slab air sampling as discussed in Section 3.2.1.4. Valley will collect sub-slab samples from all locations with an installed vapor abatement mitigation system 30-days, 180-days and annually following system installation, provided the SSDS is still required. Valley will also complete radius of influence testing as the same time as the sub-slab sampling. If ODH screening levels are exceeded, Valley will submit a Corrective Action Plan to EPA within 30 days. Proficiency air sampling will continue until EPA notifies Valley that work is complete. Valley will provide the results and corresponding evaluation after each sampling event to EPA within 30 days of receiving the complete set of final analytical data.

To further verify that the mitigation systems are operating to reduce indoor air concentrations of VI contaminants to less than applicable ODH screening levels, Valley will complete post-installation proficiency air sampling as discussed in Section 3.2.1.1. Valley will collect indoor air samples from all locations with an installed vapor abatement mitigation system 30-days, 180-days, and 1 year, following system installation. Valley will also complete radius of influence testing at the same time as the indoor air sampling. If ODH screening levels are exceeded, Valley will submit a Corrective Action Plan to EPA within 30 calendar days of discovery.

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Valley will also complete annual indoor air sampling at one building per year, beginning the second year after system installation, provided the SSDS is still required. Proficiency air sampling will continue until EPA notifies Valley that work is complete. Valley will provide the results and corresponding evaluation after each sampling event to EPA within 30 calendar days of receiving the complete set of final analytical data.

MAINTENANCE OF THE SSDS

An OM&M plan will be completed within 60-days of system start-up. The OM&M plan will detail activities required to operate the SSDS, perform repairs, and a guideline to evaluate the effectiveness of system operations. The contents of the OM&M manual will include, but not be limited to:

- Operator's manual for the system
- Contact information sheet
- System life expectancy
- Fan warranty information
- Baseline sample results (30- and 180-days and Annual sampling rounds)
- Proficiency sample results
- Annual inspection log sheets
- Photographic documentation
- Mitigation Acceptance Letter
- Mitigation System As-built Report (including map of system)
- Key to the padlock to turn the system "on" and "off"

The general OM&M plan will include an appendix containing any system-specific information required for each building. The OM&M plan will be placed in a binder to allow for easy updating of any required information and kept on-site.

1 ODH Health Assessment Section provided screening levels for sub-slab and indoor air contaminants of concern in a letter dated July 6, 2012. ODH screening levels for naphthalene were provided by electronic mail (email) on September 13, 2012. Revised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

The SSDS maintenance program will include an inspection and repair program for the system components. Valley will conduct a semi-annual inspection of the SSDS in the first year of operation, and annually thereafter, to ensure proper functionality. The inspection program will include visual inspections of the SSDSs for deficiencies to verify that the system components are effectively performing their intended functions. The following forms, provided in Appendix H, will be included in the OM&M Plans:

Building Physical Survey Questionnaire

SSDS Inspection checklist

Repair Log

ANNUAL SSDS INSPECTIONS

Valley will complete annual performance inspections on all SSDS installed to ensure that they are functioning properly. System performance inspection activities will include, but are not limited to:

System vacuum / pressure readings will be checked to ensure the system is operating in the design range

Sub-slab pressure field readings will be measured at permanent sub-slab sample points to ensure sub-slab depressurization is negative (for buildings with active SSDS and slab foundations)

Visual inspection of system piping and components for damage

Inspection of floor and wall seals, and seals around system piping penetrations, including checks for any additional areas requiring sealing

Confirm operation of the blower fan, including checks for unusual noise or vibration

Confirm padlock is attached to the on / off switch

Confirm operation with on-site employees and inspection to determine if there have been any spills, releases, and/or operational changes that may influence the need for system operation

A copy of the Annual SSDS Inspection Form is included in Attachment H.

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4.6 VI INVESTIGATION BUILDING MITIGATION SUMMARY

In 2012, others completed vapor intrusion investigations of buildings on Valley Asphalt's Property (1901 and 1903 Dryden Road, Parcel 5054). The seven buildings that were investigated are shown on Figure 1.2. In accordance with the Mitigation Summary Database Excel file, current as of the date of this report, of the seven buildings investigated:

Four structures* are proposed for demolition, pending a final decision by Valley.

Three structures* will require a SSDS.

One building must be assessed for sub-slab contaminants; a removal decision will be made after the assessment results are received.

(* Note that one building, Building 2, consists of two structures: an office space [located in the front of Building 2] and a storage space [located at the back of the building]. The front portion of Building 2 will be demolished; the back portion of Building 2 will be mitigated.)

5.0 SYSTEM DECOMMISSIONING / PROJECT CLOSE-OUT ACTIVITIES

Criteria to determine when it is appropriate to cease operation of individual vapor SSDSs will be submitted at a future date for US EPA approval.

5.1 ABANDONMENT OF GAS MONITORING PROBES

In the event that a sub-slab soil vapor probe becomes damaged, plugged, or otherwise rendered unusable, or alternatively at the completion of all explosive gas monitoring requirements, the respective gas probe(s) will be abandoned in accordance with industry standards. Such abandonment will consist of over-drilling the sub-slab probe(s) and filling it with cement. No gas monitoring probes will be abandoned without prior authorization from EPA. If a damaged, plugged, or otherwise unusable probe is still

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required for monitoring sub-slab soil vapor conditions at a particular location, Valley will replace the probe following the procedures documented in Section 3.4 and Appendix J.

6.0 PROJECT MANAGEMENT

6.1 RESPONSIBILITIES AND FUNCTIONS

The companies, individuals and associated contact numbers for those who will be responsible for the various aspects of the work are detailed in the organizational chart below:

TABLE 5

PROJECT ORGANIZATIONAL CHART

Contact Name	Phone No.
Steven Renninger (U.S. EPA OSC)	513-260-7849
Leslie Patterson (U.S. EPA RPM)	312-886-4904
Laura Marshall (Ohio EPA)	937-285-6452
John Sherrard (Dynamac Corporation EPA START contractor)	513-703-3092
Mark Case (Pubic Health – Dayton / Montgomery County)	937-225-4429
Bob Frey (ODH)	614-466-1069
Katherine Beach (Project Coordinator, Bowser Morner)	937-236-8805, ext. 340 937-308-1694 (cell)
Jeff Arp (Bowser Morner)	937-236-8805, ext. 258 614-419-0414 (cell)

1 ODH Health Assessment Section provided screening levels for sub-slab and indoor air contaminants of concern in a letter dated July 6, 2012. ODH screening levels for naphthalene were provided by electronic mail (email) on September 13, 2012. Revised ODH screening levels to correct the indoor air non-residential values for o-xylene were issued on October 9, 2012.

7.0 PROJECT SCHEDULE

Task	Schedule
Weekly Mitigation Status update conference calls with EPA and Respondents	Thursdays at 3:00 pm
Work Plan Due Date	10 days from the AOC Effective Date AOC Effective Date is April 16, 2013 Due Date is April 26, 2013
Revised Work Plan Due Date	May 15, 2013
Written notification to EPA of new contractors and/or subcontractors	At least 5 days prior to commencement of Work
Conduct Asbestos and Lead field surveys	May 15, 2013
Demolish the front (north) portion of Building 2, and Buildings 1, 7 and MP.	July 31, 2013
Initiate Section 4.0 tasks	Within 5 working days of Work Plan approval
Conduct building inspections / engineering evaluations	Anticipated date: week of May 20, 2013
Obtain quotes from licensed radon mitigation companies	Within 1 week of completion of building inspection
Select licensed radon mitigation company	Within 1 week of receipt of quotes
Design sub-slab depressurization system	Within 3 weeks of completion of building inspection / engineering evaluation and Ohio licensed radon subcontractor procurement
Install SS probe in Building 6	Within 4 weeks after EPA approval of work plan
Install SSDS (including additional SS probes, if indicated)	Within 4 weeks of completion of design of sub-slab depressurization system
Implement Mitigation Proficiency Sampling Plan	Within 30-days of installation of sub-slab depressurization system
Monthly Progress Reports	30 days after approval of Work Plan, until termination of UAO
Oral notification of any delay in performance of UAO Obligations	Within 24 hours
Written notification of any delay in performance of UAO obligations	Within 7 days thereafter
O&M Manual submission to EPA	Within 60 days of SSDS start-up
Annual SSDS Inspections	Complete within 30 days of installation date anniversary each year (2014, 2015, etc).
Proficiency indoor air sampling (new SSDS installations)	30, 180, and 365 days post-installation

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Task	Schedule
Proficiency air sampling (sub-set of systems)	Beginning 2 years following SSDS installation
Submission of Corrective Action Plan	Within 30 days of receiving sub-slab or indoor air sampling results that are greater than ODH screening levels
SSDS Upgrades	Within 30 days of receiving validated proficiency air sampling analytical results
Indoor air and sub-slab proficiency samples following completion of SSDS Upgrades (if required)	Within 30 days of completion of system modifications
Provision of analytical results and corresponding evaluation to EPA following each sampling event	Within 30 days of receiving the complete set of final analytical results
Final Report summarizing actions completed to comply with UAO	Within 60 days of completion of all work specified in Section V of the UAO (i.e., following completion of proficiency indoor air sampling for new SSDS installations)

Note: All references to x days after are calendar days

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APPENDIX A

UNILATERAL ADMINISTRATIVE ORDER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 2 2 2013

REPLY TO THE ATTENTION OF:

S-6J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Valley Asphalt Corporation
Mr. Martin Lewis
Tucker Ellis & West
1150 Huntington Building
925 Euclid Ave.
Cleveland, Ohio 44115

Attention: Mr. Martin Lewis, Tucker Ellis & West

Re: South Dayton Dump and Landfill Site, Moraine, Ohio
Site Spill Identification Number: B52B
Unilateral Administrative Order

Dear Mr. Lewis:

Enclosed please find a Unilateral Administrative Order issued by the U.S. Environmental Protection Agency under Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §§ 9601-9675.

Please note that the order allows an opportunity for a conference if requested within three (3) business days after issuance of the order, or if no conference is requested, an opportunity to submit comments within seven (7) business days of issuance of the order.

If you have any questions regarding the Order, feel free to contact Thomas C. Nash, Associate Regional Counsel, at (312) 886-0552 or Steven Renninger, On-Scene Coordinator, at (513) 260-7849.

Sincerely,

Richard C. Karl

Richard C. Karl, Director
Superfund Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 5

IN THE MATTER OF:	)	Docket No. V-W-13-C-008
	)	
South Dayton Dump and Landfill	)	ADMINISTRATIVE ORDER
Moraine, Montgomery County, Ohio	)	PURSUANT TO SECTION 106(a)
	)	OF THE COMPREHENSIVE
	)	ENVIRONMENTAL RESPONSE,
Respondent:	)	COMPENSATION, AND
	)	LIABILITY ACT OF 1980,
Valley Asphalt Corporation	)	AS AMENDED, 42 U.S.C.
	)	§ 9606(a)

I. JURISDICTION AND GENERAL PROVISIONS

This Order is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9606(a), and delegated to the Administrator of the United States Environmental Protection Agency (U.S. EPA) by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A and 14-14-B, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A and 14-14-B.

This Order pertains to property located at 1975 Dryden Road in Moraine, Montgomery County, Ohio (the South Dayton Dump and Landfill Site or the Site). This Order requires the Respondent to conduct removal activities described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

U.S. EPA has notified the State of Ohio of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

This Order applies to and is binding upon Respondent and Respondent's heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order.

Respondent shall ensure that its contractors, subcontractors, and representatives comply with this Order. Respondent shall be responsible for any noncompliance.

III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds that:

1. The Site is located at 1901 through 2153 Dryden Road and 2225 East River Road in Moraine, Ohio. The Site is bounded to the north and west by the Miami Conservancy District floodway (part of which is included in the definition of the Site), the Great Miami River Recreational Trail and the Great Miami River beyond. The Site is bounded to the east by Dryden Road with light industrial facilities beyond, to the southeast by residential and commercial properties along East River Road with a residential trailer park beyond, and to the south by undeveloped land with industrial facilities beyond.

2. The Site is a former industrial landfill located at 1975 Dryden Road in Moraine, Ohio. It encompasses a total of 80 acres, significant portions of which contain landfilled waste. Approximately 40 acres of the landfill have been built over and/or are being used for other commercial/industrial purposes.

3. Approximately 25,060 people live within a 4-mile radius of the Site. Six single-family residences are located on the northwest side of East River Road and are adjacent to the southeast boundary of the Site. A seventh single family home is located on the southeast side of East River Road and is within 300 feet of the Site. A trailer park with several residences is also situated approximately 300 feet southeast of the Site at the southeast intersection of Dryden Road and East River Road.

4. From 1941 to the present, various members of the Boesch and Grillot families have owned a major portion of the property where dumping was conducted. Most of the properties that comprise the Site were acquired over time by Horace Boesch and Cyril Grillot.

5. The landfill operated from the early 1940s to 1996 and includes a partially filled sand and gravel pit. The landfill contains household waste, drums, metal turnings, fly ash, foundry sand, demolition material, wooden pallets, asphalt, paint, paint thinner, oils, brake fluids, asbestos, solvents, transformers and other industrial waste. As the excavated areas of the Site were filled, some of the property was sold and/or leased to businesses including Valley Asphalt and other businesses along Dryden Road and East River Road. The Miami Conservancy District owns the southern part of the site including part of the large quarry pond.

6. Disposal of waste materials began at the Site in the early 1940s. Materials dumped at the Site included drummed wastes. Known hazardous substances were disposed at the Site, including drums containing hazardous waste from nearby facilities. Some of the drums contained cleaning solvents (1,1,1-trichloroethane ["TCA"]; methyl ethyl ketone ["MEK"]; and xylene); cutting oils; paint; stoddard solvents; and machine-tool, water-based coolants. The Site had previously accepted materials including oils, paint residue, brake fluids, chemicals for cleaning metals, solvents, etc. Large quantities of foundry sand and fly ash were dumped at the Site. Asbestos

was also dumped at the Site.

7. U.S. EPA conducted a screening site inspection of the Site in 1991. Ohio EPA conducted a site team evaluation prioritization of the landfill in 1996. In 2002, U.S. EPA conducted an aerial photographic analysis of the site.

8. On May 7, 1993, Valley Asphalt Corporation purchased the property where its facility is located from Cyril J. Grillot and Katherine A. Boesch. This property, formerly platted as Lots 3059 and 3060, is today platted as City Lot 5054. Montgomery County Auditor's records show Valley Asphalt Corporation to be the current owner and the payer of taxes on the property.

9. In 2000, Valley Asphalt removed several drums and 2,217 tons of contaminated soils from their property (northern area of the Site) that were uncovered when a sewer line was being excavated. U.S. EPA proposed the site to the National Priorities List in 2004.

10. In 2006, several potentially responsible parties (PRPs) for the Site agreed to conduct further studies and evaluate cleanup options at the Site under a Remedial Investigation/Feasibility Study (RI/FS). The RI/FS is being conducted under an Administrative Settlement Agreement and Order on Consent with U.S. EPA. In 2008, the PRPs agreed to conduct a streamlined RI/FS at the site. The PRPs conducted several investigations at the site from 2008 through 2010.

11. The 2008-2010 investigations conducted by the PRPs included geophysical surveys, test pit and test trench sampling, vertical aquifer sampling, landfill gas sampling and groundwater monitoring well installation and sampling. From these investigations, it was found that the groundwater contains vinyl chloride, trichloroethylene (TCE), 1,2-dichloroethene, arsenic, lead and other chemicals. Landfill gas contains methane, TCE and other volatile organic compounds. Based on the investigations, the PRPs agreed to divide the site work into two parts. Operable unit one (OU1) would involve evaluating cleanup alternatives to address 55 acres of the landfill, and would include cleanup alternatives that would allow on-site business to remain safely operating at the site.

12. In June 2012, U.S. EPA, in consultation with Ohio EPA, determined that additional data must be collected on groundwater and potential hot spots before selecting a remedy for OU1. U.S. EPA anticipated oversight of additional OU1 RI/FS field work, with a proposed cleanup plan and final OU1 remedy selection by March 2015.

13. Operable unit two (OU2) will involve more detailed investigations of the landfill materials in remaining site areas, surface water and sediment in the on-site Quarry Pond and the Great Miami River, floodplain soils, and off-site groundwater. U.S. EPA expects the PRPs to submit a work plan for the OU2 work in 2013.

14. In a letter dated June 5, 2012, U.S. EPA RPM Karen Cibulskis requested U.S. EPA Emergency Response Branch assistance to determine if the Site met the criteria for a time-critical removal action. The letter requested removal assistance in evaluating U.S. EPA's options for

addressing current and potential vapor intrusion risks at the Site, including whether removal authority could be appropriately used to implement mitigation measures to address all or some of the current and threatened risks posed by VOCs (primarily TCE) in sub-slab soil gas at 12 commercial/industrial buildings built over the landfill, and at an adjacent commercial/industrial building. PRP Vapor intrusion sampling in January and March 2012 has shown TCE sub-slab vapor levels as high as 5,600 parts per billion by volume [ppbv] and TCE indoor air vapor levels as high as 13 ppbv, a documented completed exposure pathway.

15. At the occupied building, located at 2031 Dryden Road, methane was detected in a laboratory sub-slab sample at 0.97%, which exceeds the Ohio Department of Health (ODH) sub-slab methane screening level of 0.5%. Based on field data methane was not detected in the indoor air.

16. In Building 2, located at 1903 Dryden Road, which is used for storage, methane was detected in a laboratory sub-slab sample above 100% of the lower explosive limit (LEL) (the sample concentration was 6.6% methane by volume), but was not detected in indoor air (based on field data). Building 2 is currently closed to access.

17. On July 6, 2012, the ODH provided health-based guidance to evaluate the results of vapor intrusion sub-slab and indoor air sampling for chemicals of concern at the Site. The Agency for Toxic Substances and Disease Registry (ATSDR) and the ODH identified residential and non-residential sub-slab and indoor air screening levels.

18. In a letter dated July 17, 2012, the Ohio EPA expressed concerns about the risk to human health from indoor air exposure to VOCs and the risk of explosive conditions from landfill gas. Ohio EPA views the Site as a threat to the on-Site and surrounding businesses and residences, and supports the Remedial Branch's request for assistance from the Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the Site.

19. Between July 12 and August 8, 2012, U.S. EPA conducted a Removal Site Investigation at the Site including residential and non-residential sub-slab sampling and the installation of soil gas vapor probes along the Site's eastern perimeter. U.S. EPA sampling has confirmed a completed exposure pathway with respect to vapor intrusion.

20. Vapor intrusion sampling results from 2012 by U.S. EPA and the PRPs have documented vapor intrusion is occurring at the Site. Five non-residential buildings have shown sub-slab TCE concentrations greater than the ODH sub-slab screening level (as high as 17,000 ppbv) and indoor air TCE concentrations greater than the ODH indoor air screening level of 2 ppbv (as high as 50 ppbv). One non-residential building has shown a crawl space PCE concentration at 38 ppbv which exceeds the ODH indoor air PCE screening level of 25 ppbv. In addition, one non-residential building has shown a sub-slab methane level of 6.6%. Methane is explosive between 5% and 15%.

21. U.S. EPA has documented methane levels using field screening and soil gas samples in GP-2

(12-foot and 16-foot depths) ranging from 2.5% to 24.1%. These results are greater than the ODH sub-slab methane screening level of 0.5% and Ohio EPA's perimeter regulatory level of 5% (lower explosive limit). GP-2 is located off-Site, on the eastside of Dryden Road and adjacent to a Dayton Power & Light building. The source of the methane levels in GP-2 has not been determined.

22. U.S. EPA sent an Administrative Order on Consent, to do the Work required on the Valley Asphalt property at the Site, to Valley Asphalt Corporation on December 26, 2012 which was received by Valley Asphalt on January 4, 2013. By a letter received by U.S. EPA on January 22, 2013, Valley Asphalt "declined to execute the Consent Order."

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record supporting these removal actions, U.S. EPA determines that:

1. The South Dayton Dump and Landfill Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

2. Volatile Organic Compounds (VOCs) including trichloroethylene (TCE) and methane are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

3. The Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

4. Respondent Valley Asphalt Corporation is the present "owner" and "operator" of Parcel 5054 at the South Dayton Dump and Landfill Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20). Respondent is therefore a liable person under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§ 9601(8) and (22).

6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended (NCP), 40 CFR Part 300. These factors include, but are not limited to, the following:

a. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants; this factor is present at the Site due to the existence of vapor intrusion which occurs when vapors produced by a chemical spill or groundwater contamination plume migrate through soil into the foundations of structures and into the indoor air. When chemicals are spilled on the ground, they will seep into the soil and make their way into the groundwater. VOCs, including TCE, produce vapors that travel through soil. These vapors can enter a home or building through cracks in the foundation or into a basement with a dirt floor or concrete slab.

To date, U.S. EPA and the PRPs have conducted vapor intrusion sampling and have documented the following VOC and methane exceedances:

- One non-residential building (2003 Dryden Road – Building 2) showed a sub-slab 1,1-DCA level greater than the ODH sub-slab 1,1-DCA screening level of 160 ppbv, with a high 1,1-DCA concentration of 4,100 ppbv.

- Three non-residential buildings (1903 Dryden Road – Building 2, 2003 Dryden Road – Building 2 and 2031 Dryden Road – Building 1) showed sub-slab benzene levels greater than the ODH sub-slab benzene screening level of 20 ppbv, with a high benzene concentration of 540 ppbv in the sub-slab vapor sample collected from beneath 2031 Dryden Road-Building 1. An indoor air sample collected at 2003 Dryden Road – Building 2 showed a benzene concentration of 2.4 ppbv, which exceeds the ODH indoor air benzene screening level of 2 ppbv. This documents a completed exposure pathway for vapor intrusion.

- Two non-residential buildings (2015 Dryden Road, Building 1 and 2031 Dryden Road, Building 1) showed sub-slab cis-1,2-DCE levels greater than the ODH sub-slab cis-1,2-DCE screening level of 370 ppbv, with a high cis-1,2-DCE concentration of 27,000 ppbv at 2031 Dryden Road, Building 1.

- Three non-residential buildings (1903 Dryden Road, Building 2; 2003 Dryden Road, Building 2; and 2031 Dryden Road, Building 1) showed sub-slab vinyl chloride levels greater than the ODH sub-slab vinyl chloride screening level of 20 ppbv, with a high vinyl chloride concentration of 5,500 ppbv.

- Thirteen non-residential buildings showed sub-slab TCE levels greater than the ODH sub-slab TCE screening level of 20 ppbv, with a high TCE concentration of 17,000 ppbv. Five of the thirteen non-residential buildings show indoor air TCE levels greater than the ODH indoor air TCE screening level of 2 ppbv, with a high TCE concentration of 50 ppbv, documenting a completed exposure pathway. This indoor air TCE result is 2.5 times greater than the removal action screening level provided by ODH. In addition, one non-residential on-Site structure showed a crawl space PCE level greater than the ODH indoor air PCE screening level of 25 ppbv, with a PCE concentration of 38 ppbv.

- One non-residential building (2031 Dryden Road – Building 1) showed a sub-slab m,p-xylene sub-slab concentration of 2,100 ppbv, which exceeds the m,p-xylene screening level of 2,000 ppbv; and an o-xylene sub-slab concentration of 2,000 ppbv, which equals the o-xylene screening level of 2,000 ppbv.

- 2031 Dryden Road, Building 1 showed a sub-slab methane level of 2.2% and 1903 Dryden Road, Building 2 showed a sub-slab methane level of 6.6%, which exceeds the ODH methane sub-slab screening level of 0.5%. Methane is explosive between 5% and 15%.

- U.S. EPA observed detectable methane concentrations in one soil gas probe, GP-2, using a GEM-2000 methane meter. GP-2 contains nested soil gas sampling depths of 12-feet bgs and at 16-feet bgs. The GP-2 soil gas probe at the 12-foot depth showed methane levels ranging from 14.7% to 17.6%. The GP-2 soil gas probe at the 16-foot depth showed methane levels ranging from 22.2% to 24.1%. The methane levels in GP-2 at depths of 12 and 16 feet bgs exceed Ohio EPA's perimeter regulatory level of 5% (lower explosive limit). GP-2 is located off-Site and on the eastern side of Dryden Road.

There is actual vapor intrusion exposure occurring and there is a potential for additional vapor intrusion to occur at this Site.

TCE is a hazardous substance within the meaning of Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) because it is listed at 40 CFR Section 302.4. Historical sampling, and PRP and U.S. EPA sub-slab and indoor air sampling results indicate that TCE vapors are migrating into non-residential buildings at chronic levels that ODH considers harmful to human health.

TCE is a man-made chemical that is widely used as a cleaner to remove grease from metal parts. TCE is a nonflammable, colorless liquid with a sweet odor. Exposure to TCE at very high concentrations (particularly in closed, poorly ventilated areas) may cause headaches, lung irritation, dizziness, poor coordination (clumsiness), and difficulty speaking. According to the ODH, the evidence that TCE is a human carcinogen has been under review by health organizations since 2001. The U.S. Department of Health and Human Services considers TCE to be "reasonably anticipated to be a human carcinogen" based on limited evidence of carcinogenicity from studies of humans and sufficient evidence of carcinogenicity from studies of laboratory animals. A report recently released by the National Academies of Science National Research Council (2006) has stated that "evidence on cancer and other health risks from TCE exposure has strengthened since 2001", pointing to studies of human populations that support "the conclusion that TCE is a potential cause of kidney cancer." Other ecological studies of communities exposed to TCE in drinking water supplies in Massachusetts, New Jersey, and North Carolina have suggested an association between these exposures and elevated levels of leukemia in the exposed population.

b. Threat of fire or explosion; this factor is present at the Site due to the existence of explosive conditions from landfill gas.

The PRPs conducted vapor intrusion sampling in January and March 2012. Sub-slab sampling showed methane percentages greater than the ODH sub-slab screening level of 0.5% at two non-residential properties.

In July 2012, U.S. EPA documented methane at 2.5% at the 16-foot depth of soil gas probe GP-2 and in August 2012, U.S. EPA documented methane at 2.2% in a sub-slab sample collected from 2031 Dryden Road. These results exceed the ODH sub-slab screening level of 0.5%.

U.S. EPA has documented methane levels in GP-2 (12-foot and 16-foot depths) ranging from 2.5% to 24.1% at off-site locations (City of Moraine property). These results are greater than the ODH sub-slab methane screening level of 0.5% and exceed Ohio EPA's perimeter regulatory level of 5% (lower explosive limit). GP-2 is located off-Site, on the eastside of Dryden Road and adjacent to a DP&L building. Methane is flammable between 5% and 15%. Methane's LEL is 5% and the UEL is 15% methane per volume of air.

At the Site, methane was detected in four laboratory sub-slab soil gas samples above 10% of the LEL (greater than 0.5% methane) at non-residential buildings at the Site. At another building, methane was detected (at 6.6%) in a laboratory sub-slab soil gas sample above 100% of the LEL (greater than 5%). This building has the potential for an explosion/fire hazard if a spark or ignition source is present. This building is now closed to access.

Because methane is extremely flammable in the presence of oxygen and an ignition source (open flame, pilot light), the main public health threat posed from methane is the physical explosion hazard posed by methane levels between 5% and 15% by volume in the air.

Ohio Revised Code (ORC) 3734.041 provides that explosive gases shall be considered to endanger human health or safety or the environment if concentrations of methane generated by the landfill in landfill structures, excluding gas control or recovery system components, exceed 25% of the LEL (or 1.25% methane in the indoor air) or if concentrations of methane generated by the landfill at the landfill boundary exceed the LEL (or 5% methane). U.S. EPA documented methane levels in GP-2 ranging from 14.7% to 24.1%. GP-2 is located about 75-feet east of the eastern boundary of the Site. These methane levels exceed the levels specified at ORC 3734.041.

c. The unavailability of other appropriate federal or state response mechanisms to respond to the release; this factor supports the actions required by this Settlement Agreement at the Site because Ohio EPA does not have the resources to respond to this Site.

In a letter dated July 17, 2012, Ohio EPA expressed concerns about the risk to human health from indoor air exposure to VOCs and the risk of explosive conditions from landfill gas, Ohio EPA views the Site as a threat to the on-site and surrounding businesses and residences, and supports the Remedial Branch's request for assistance from the Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the South Dayton Dump and Landfill Site.

7. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

8. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment, and are consistent with the NCP and CERCLA.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, U.S. EPA hereby orders that Respondent perform the following actions:

1. Notice of Intent to Comply

Respondent shall notify U.S. EPA in writing within 3 business days after the effective date of this Order of Respondent 's irrevocable intent to comply with this Order. Failure of Respondent to provide such notification within this time period shall be a violation of this Order. In addition to the U.S. EPA representatives identified in Section V.2 below, a copy of the written notice of intent to comply shall also be sent to: Thomas Nash, Associate Regional Counsel, Office of Regional Counsel, 77 West Jackson Boulevard, C-14J, Chicago, Illinois, 60004-3590 and Superfund Record Center, 77 West Jackson Boulevard, SRC-7J, Chicago, Illinois, 60604-3590. The written notice of intent to comply shall reference the Site name and the docket number of this Order.

2. Designation of Contractor, Project Coordinator, and On-Scene Coordinator

Respondent shall retain a contractor to implement the removal actions. Respondent shall notify U.S. EPA of Respondent's qualifications or the name and qualifications of such contractor(s) within 5 business days of the effective date of this Order. Respondent shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of any of the contractors and/or subcontractors retained by the Respondent. If U.S. EPA disapproves a selected contractor, Respondent shall retain a different contractor within 2 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that contractor's name and qualifications within 3 business days of U.S. EPA's disapproval.

The contractor(s) retained by the Respondent must demonstrate compliance with American National Standards Institute/American Society for Quality Control (ANSI/ASQC) E-4-2004, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor 's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002), or equivalent documentation as required by U.S. EPA. Any decision not to require submission of the contractor's QMP should be documented in a memorandum from the OSC and Regional quality assurance personnel to the Site file.

Within 5 business days after the effective date of this Order, the Respondent shall designate a Project Coordinator who shall be responsible for administration of all the Respondent's actions required by the Order and submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. To the greatest extent possible, the Project Coordinator shall be present on-site or readily available during site work. U.S. EPA retains the right to disapprove of any Project Coordinator named by the Respondent. If U.S. EPA disapproves a selected Project Coordinator, Respondent shall retain a different Project Coordinator within 3 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 4 business days of U.S. EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by Respondent.

The U.S. EPA has designated Steven Renninger of Emergency Response Branch 1, Region 5, as its On-Scene Coordinator (OSC) and Leslie Patterson as its Alternate OSC. Respondent shall direct all submissions required by this Order to OSC Steve Renninger at U.S. EPA/ERT, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, and to OSC Leslie Patterson at: U.S. EPA, SR-6J, 77 West Jackson Boulevard, Chicago, Illinois 60604, by certified or express mail. Respondent shall also send a copy of all submissions to Thomas Nash, Associate Regional Counsel, 77 West Jackson Boulevard, C-14J, Chicago, Illinois, 60604-3590. All Respondents are encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant post-consumer waste paper content where possible) and using two-sided copies.

3. Work to Be Performed

Respondent shall perform, at a minimum, the following response activities:

a. Develop and implement a Site Health and Safety Plan for Work to be performed at the Valley Asphalt Property. For purposes of this Administrative Order, "Valley Asphalt Property" shall mean that portion of the Site owned by Valley Asphalt Corporation, consisting of City Lot 5054;

b. For Valley Asphalt Property, if the ODH Sub-Slab or Indoor Air Screening Level for a contaminant of concern (TCE, PCE, methane, etc) is exceeded for a residential structure, design and install a vapor abatement mitigation system in the structure(s) impacted by subsurface gas migration. The abatement system will include installation of a sub-slab depressurization system (SSDS) or crawl space depressurization system, sealing cracks in walls and floors of the basement, and sealing drains that could be a pathway. The vapor abatement mitigation system will be designed to control levels of methane and VOCs to below ODH sub-slab and indoor air screening levels;

c. For Valley Asphalt Property, if the ODH Sub-Slab or Indoor Air Screening Level for a contaminant of concern (TCE, PCE, methane, etc) is exceeded for a commercial structure, design and install a vapor abatement mitigation system in the structure(s) impacted by subsurface gas migration. The abatement system will include installation of a SSDS, sealing cracks in walls and floors, and sealing drains that could be a pathway. The vapor abatement mitigation system will be designed to control levels of methane and VOCs to below ODH sub-slab and indoor air screening levels; and

d. For Valley Asphalt Property, develop and implement a performance sample plan to confirm that ODH screening levels are achieved for contaminants of concern following installation of on-site vapor abatement mitigation systems.

3.1 Work Plan and Implementation

Within 10 business days after the effective date of this Order, the Respondent shall submit to U.S. EPA for approval a draft Work Plan for performing the removal activities set forth above. The draft Work Plan shall provide a description of, and an expeditious schedule for, the activities required by this Order. The Work Plan shall include a Quality Assurance Project Plan (QAPP). The following documents shall be used for the development of QAPPs for Region 5 Superfund sites:

- The Uniform Federal Policy for Quality Assurance Projects Plans (UFP-QAPP), OSWER Directive 9272.0-17; **[the QAPP format can be found at http://www.epa.gov/fedfac/documents/qualityassurance.htm;]**
- EPA Requirements for Quality Assurance Project Plans EPA QA/R-5, March 2001, Reissued May 2006;

The following guidance may be used in conjunction with the requirements above:

- Guidance for the Quality Assurance Project Plans EPA QA/G-5, December 2002.
- Guidance on Choosing a Sampling Design for Environmental Data Collection EPA QA/G-5S, December 2002.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft Work Plan. If U.S. EPA requires revisions, Respondent shall submit a revised draft Work Plan within 7 business days of notification. Respondent shall implement the Work Plan as finally approved in writing by U.S. EPA in accordance with the schedule approved by U.S. EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be fully enforceable under this Order. Respondent shall notify U.S. EPA at least 48 hours prior to performing any on-site work pursuant to the U.S. EPA approved Work Plan.

Respondent shall not commence or undertake any removal actions at the Site without prior U.S. EPA approval.

3.2 Health and Safety Plan

Within 10 business days after the effective date of this Order, the Respondent shall submit a plan for U.S. EPA review and comment that ensures the protection of the public health and safety during performance of on-site work under this Order. This plan shall comply with applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 CFR Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondents shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the removal action.

3.3 Quality Assurance and Sampling

All sampling and analyses performed pursuant to this Order shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate U.S. EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 2004, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001, Reissued May 2006)," or equivalent documentation as determined by U.S. EPA. U.S. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements.

Upon request by U.S. EPA, Respondent shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondent shall provide to U.S. EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondent shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondent shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondent or its contractors or agents while performing work under this Order. Respondent shall notify U.S. EPA not less than 3 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

3.4 Reporting

Respondent shall submit a monthly written progress report to U.S. EPA concerning activities undertaken pursuant to this Order, beginning 30 calendar days after the date of U.S. EPA's approval of the Work Plan, until termination of this Order, unless otherwise directed by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Respondent and any successor in title shall, at least 30 days prior to the conveyance of any interest in real property at the Valley Asphalt Property, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.4 (Access to Property and Information).

3.5 Final Report

Within 60 calendar days after completion of all removal actions required under this Order, the Respondent shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP. The final report shall also include a good faith estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

> Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

4. Access to Property, Cooperation, and Information

Respondent shall provide or obtain access as necessary to the Valley Asphalt Property and all appropriate off-site areas, and shall provide access to all records and documentation related to the conditions at the Valley Asphalt Property and the activities conducted pursuant to this Order.

Such access shall be provided to U.S. EPA, its employees, contractors, agents, consultants, designees, representatives, and State of Ohio representatives. These individuals shall be permitted to move freely at the Valley Asphalt Property and appropriate off-site areas in order to conduct activities which U.S. EPA determines to be necessary. Respondent shall submit to U.S. EPA, upon request, the results of all sampling or tests and all other data generated by Respondent or its contractors, or on the Respondent's behalf during implementation of this Order.

Respondent shall cooperate with and assist U.S. EPA, its employees, contractors, agents, consultants, designees, representatives, and State of Ohio representatives to accomplish and complete the removal actions required under this Order.

Where work under this Order is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall obtain all necessary access agreements within 14 calendar days after the effective date of this Order, or as otherwise specified in writing by the OSC. Respondent shall immediately notify U.S. EPA if, after using its best efforts, it is unable to obtain such agreements. Respondent shall describe in writing its efforts to obtain access. U.S. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as U.S. EPA deems appropriate.

5. Record Retention, Documentation, Availability of Information

Respondent shall preserve all documents and information, in its possession or the possession of its contractors, subcontractors or representatives, relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for six years following completion of the removal actions required by this Order. At the end of this six year period and at least 60 days before any document or information is destroyed, Respondent shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondent shall provide documents and information retained under this Section at any time before expiration of the six year period at the written request of U.S. EPA. Any information that Respondent is required to provide or maintain pursuant to this Order is not subject to the Paperwork Reduction Act of 1995, 44 U.S.C. § 3501 *et seq.*

6. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR § 300.440, 58 Fed. Reg. 49215 (Sept. 22, 1993).

7. Compliance With Other Laws

All actions required pursuant to this Order shall be performed in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA and 40 CFR § 300.415(j). In accordance with 40 CFR §300.415(j), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by U.S. EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws.

8. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondent shall immediately take all appropriate action to prevent, abate or minimize such release, or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions.

Respondent shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondent shall also comply with any other notification requirements, including those in Section 103 of CERCLA, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

VI. AUTHORITY OF THE U.S. EPA ON-SCENE COORDINATOR

The OSC shall be responsible for overseeing the implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondent at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

U.S. EPA and Respondent shall have the right to change their designated OSC or Project Coordinator. U.S. EPA shall notify the Respondent, and Respondent shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. Notification may initially be made orally, but shall be followed promptly by written notice.

VII. PENALTIES FOR NONCOMPLIANCE

Violation of any provision of this Order may subject Respondent to civil penalties of up to $37,500 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C.

§ 9606(b)(1) and as adjusted by 69 Fed. Reg. 7121-27 (Feb. 13, 2004) (codified at 40 C.F.R. § 19.4) pursuant to the Debt Collection Improvement Act of 1996. Respondent may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should Respondent violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

VIII. REIMBURSEMENT OF COSTS

Respondent shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondent's implementation of the requirements of this Order. U.S. EPA may submit to Respondent on a periodic basis a bill for all response costs incurred by the United States with respect to this Order. U.S. EPA's Itemized Cost Summary, or such other summary as certified by U.S. EPA, shall serve as the basis for payment.

Respondent shall, within 30 days of receipt of the bill, remit a cashier's or certified check for the amount of those costs made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency
Superfund Payments
Cincinnati Finance Center
Post Office Box 979076
St. Louis, Missouri 63197-9000

Respondent shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be designated as "Response Costs – South Dayton Dump and Landfill Site" and shall reference the payer's name and address, the U.S. EPA site identification number B52B, and the docket number of this Order.

Interest at a rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 CFR § 102.13 shall begin to accrue on the unpaid balance from the day after the expiration of the 30 day period notwithstanding any dispute or an objection to any portion of the costs.

IX. RESERVATION OF RIGHTS

Nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

X. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order. Each party shall bear its own costs and attorneys fees in connection with the action resolved by this Order.

This Order does not constitute a pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondent(s) or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a), 9607(a).

XI. MODIFICATIONS

Modifications to any plan or schedule may be made in writing by the OSC or at the OSC's oral direction. If the OSC makes an oral modification, it will be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the OSC's oral direction. The rest of the Order, or any other portion of the Order, may only be modified in writing by signature of the Director, Superfund Division, Region 5.

If Respondent seeks permission to deviate from any approved plan or schedule, Respondent's Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondent shall relieve Respondent of its obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

XII. NOTICE OF COMPLETION

After submission of the Final Report, Respondent may request that U.S. EPA provide a Notice of Completion of the work required by this Order. If U.S. EPA determines, after U.S. EPA's review of the Final Report, that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention), U.S. EPA will provide written notice to the Respondent. If U.S. EPA determines that any removal activities have not been completed in accordance with this Order, U.S. EPA will notify the Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan to correct such deficiencies. The Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the U.S. EPA notice. Failure to implement the approved modified Work Plan shall be a violation of this Order.

XIII. ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting these removal actions is available for review during normal business hours in the U.S. EPA Record Center, Region 5, 77 W. Jackson Blvd., Seventh Floor, Chicago, Illinois. Respondent may contact Thomas C. Nash, Associate Regional Counsel, at (312) 886-0552 to arrange to review the Administrative Record. An index of the Administrative Record is attached to this Order.

XIV. OPPORTUNITY TO CONFER

Within 3 business days after issuance of this Order, Respondent may request a conference with U.S. EPA. Any such conference shall be held within 5 business days from the date of the request, unless extended by agreement of the parties. At any conference held pursuant to the request, Respondent may appear in person or be represented by an attorney or other representative.

If a conference is held, Respondent may present any information, arguments or comments regarding this Order. Regardless of whether a conference is held, Respondent may submit any information, arguments or comments (including justifications for any assertions that the Order should be withdrawn against a Respondent), in writing to U.S. EPA within 2 business days following the conference, or within 7 business days of issuance of the Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Requests for a conference shall be directed to Thomas C. Nash, Assistant Regional Counsel, at (312) 886-0552. Written submittals shall be directed as specified in Section V.2 of this Order.

XV. SEVERABILITY

If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XVI. EFFECTIVE DATE

This Order shall be effective 10 business days following issuance unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective 5 business days after the day of the conference.

IT IS SO ORDERED

BY: Rich C Karl DATE: 3-21-13

Richard C. Karl, Director
Superfund Division
United States Environmental Protection Agency
Region 5

ATTACHMENT A
INDEX TO THE ADMINISTRATIVE RECORD

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
SOUTH DAYTON DUMP AND LANDFILL SITE
MORAINE, MONTGOMERY COUNTY, OHIO

ORIGINAL
MARCH 13, 2013
SEMS ID:

NO.	SEMS ID	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	255879	03/30/03	Techlaw Inc	U.S. EPA	Techlaw Inc - Draft Title Search Addendum - Reference #6	42
2	262758	08/15/06	Karl, R., U.S. EPA	Respondents	Administrative Settlement Agreement & Order On Consent For Ri/Fs (Signed) - V-W-06-C-852	106
3	437166	06/09/11	CRA	U.S. EPA	Cra - Fig 3: 2009 & 2010 Soil Vapor Sampling Results That Exceed EPA Screening Levels (VOCS)	1
4	437167	06/09/11	CRA	U.S. EPA	Cra - Fig 3: 2009 & 2010 Soil Vapor Sampling Results That Exceed EPA Screening Levels (Methane)	1
5	437168	11/04/11	Cibulskis, K., U.S. EPA	K., Conestoga - Rovers & Associates	EPA - Modified Vapor Intrusion Study Work Plan W/Cover Letter	125
6	437169	06/01/12	U.S. EPA	Public	EPA - Site Summary/Fact Sheet	3
7	437170	06/01/12	Ohio Dept. of Health	Public	Fact Sheet: Methane: Answers To FAQS	2
8	437171	06/05/12	Cibulskis, K., U.S. EPA	Renninger, S., U.S. EPA	EPA Memo Re: Request For Removal Assistance In Evaluating Vapor Intrusion Data & Removal Authority	2

9	437172	06/21/12	Ohio Dept. of Health	Public	Fact Sheet: Trichloroethylene (TCE): Answers To FAQs	2
10	437173	07/06/12	Frey, R., Ohio Dept. of Health	Renninger, S., U.S. EPA	OH Dept Of Health Letter Re: Transmittal Of Screening Levels For Contaminants Of Concern In Indoor & Sub-Slab Soil Gas	4
11	437174	07/17/12	Marshal , L., Ohio Dept. of Health	Durno, M., U.S. EPA	OH EPA Letter Re: Oh EPA'S S Support Of Us EPA'S June 5, 2012 Request For Removal Assistance In Evaluating Current And Potential Vapor Intrusion Risks	1
12	437175	08/03/12	Renninger, S., U.S. EPA	Marshal , L., Ohio Dept. of Health	EPA Letter Re: Request For OH EPA To Identify Any/All State Arars	2
13	902161	05/17/00	Herring, M., U.S. EPA	U.S. EPA	Intra Office Mail Re: Valley Asphalt Grant Of Easement To The Montgomery County Commissioners	1
14	902162	10/29/12	Sherrard, J., West	Renninger, S., U.S. EPA	Site Assessment Report For The South Dayton Landfill Site	121
15	437265	10/09/12	Renninger, S., U.S. EPA	Karl, R., U.S. EPA	Action Memo - Request For Approval And Funding For A Time-Critical Removal Action **(REDACTED)**	47

ATTACHMENT B

LIABILITY FILE INDEX

NO.	SEMS ID	DATE	AUTHOR	RECIPIENT	DESCRIPTION	PAGES
1.	255879	03/30/03	Techlaw, Inc.	U.S.EPA	Draft Title Search Addendum Reference #6	42
2.	437166	06/09/11	CRA	U.S. EPA	CRA—Fig 3: 2009 & 2010 Soil Vapor Sampling Results that Exceed EPA Screening Levels (VOCs)	1
3.	437167	06/09/11	CRA	U.S. EPA	CRA—Fig 3: 2009 & 2010 Soil Vapor Sampling Results that Exceed EPA Screening Levels (Methane)	1
4.	902162	10/29/12	Sherrard, J. Weston	Renninger, S. U.S. EPA	Site Assessment Report For the South Dayton Landfill Site	121

APPENDIX B

METHANE MONITORING FORM

Methane Monitoring Log

Property Address: 1901 Dryden Road, Moraine, Ohio Owner's Name: Valley Asphalt

Building Designation: ☐ ____ Probe #___

Date	Permanent Gas Monitor Status	Gas Pressure	CH_4 % by volume (v/v)	Water level in probe	Ambient Barometric Pressure	Ambient Temp (°F)	Relative Humidity	Current Weather Conditions
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							
	☐ Green ☐ Red							

Comments (include date):

APPENDIX C

HEALTH AND SAFETY PLAN

Site Health and Safety Plan (HASP)
for Valley Asphalt
1901 and 1903 Dryden Road
Moraine, Ohio

For

Valley Asphalt
11641 Mosteller Road
Cincinnati, Ohio 45241

April 25, 2013

TABLE OF CONTENTS

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN (HASP)

This Health and Safety Plan (HASP) contains standar d operating procedures that will be used for environmental site activities at the Valle y Asphalt Facility, Dayton, Ohio. These procedures are designed to:

1) Protect the safety of all personnel working at t he site.
2) Keep off4site personnel safe with regard to acti vities occurring on4site.
3) Reduce the potential for environmental degradati on caused by the on4site activities.

1.0 INTRODUCTION

Safety is our first and highest priority. This HAS P document is intended to provide the standard operating and safety procedures and guidel ines to be used during environmental investigations and remediation projects. These pro cedures are designed to establish a framework in which operations at the work site will proceed. This Safety Plan was prepared based on an anticipated scope of work defined in the environmen tal investigation and remedial action specifications for the site.

Since it is, of course, impossible to anticipate an d plan for all the safety requirements and contingencies that may arise during the performance of site work, this plan will be changed and modified in response to new situations that occur a s the work progresses. This safety plan is intended to address the central foreseeable safety issues and procedures and to outline the ways of implementing necessary changes/additions to the plan in the field. This safety plan describes the procedures for:

- Safe work practices
- Preventing accidents
- Engineered safeguards
- Protecting personnel from injury and illness
- Medical surveillance
- Identifying specific hazards
- Environmental and personnel monitoring
- Personal protective equipment
- Education and training
- Standard operating safety procedures

2.0 SAFETY ORGANIZATION

Although everyone involved in the project shares the responsibility for safety, the Site Health and Safety Officer (SHSO) is primarily responsible for implementing the safety plan. The safety officer's responsibilities, if an SHSO is required on this project, are described below.

2.1 SITE HEALTH AND SAFETY OFFICER (SHSO)

The Site Health and Safety Officer is responsible for administering the safety program at the site. The duties of this officer, who reports to the Project Coordinator, include monitoring the site work to verify that it is conducted safely and making sure that safety regulations are adhered to by construction personnel and others on the work site. The Site Health and Safety Officer has full authority to stop any dangerous site activities. Other duties of the Site Health and Safety Officer are discussed below.

3.0 PERSONNEL TRAINING REQUIREMENTS

As noted earlier, no special zones are expected for this project. However, if during the field work, special "Exclusion" and "Contamination Reduction" zones as required in the OSHA regulations that govern hazardous waste operations and emergency responses will be designated, all personnel required to enter the "Exclusion" and "Contamination Reduction" zones will have completed documented training in accordance with the requirements stated in 29 CFR 1910.120.

3.1 OFF-SITE TRAINING

All contractor and subcontractor personnel assigned to or regularly entering the Exclusion Zones or Contamination Reduction Zones on the site will have received appropriate health and safety training in accordance with 29 CFR 1910.120. This requirement does not apply to the Support Zone where work is supervised or performed for health, safety, security, or administrative purposes, for maintenance, or for any other site4related function. Those who will enter the Exclusion or Contamination Reduction Zones will attend at least 40 hours of initial safety training off4site. All personnel will take at least eight hours of refresher safety training each year.

3.2 SITE-SPECIFIC TRAINING

As required, personnel assigned to the site will complete a training session of sufficient duration to demonstrate that they are capable of and familiar with the use and care of safety, respiratory, and protective equipment and with site control, decontamination, emergency, safety, and security procedures required for this site. If required, the site4specific training session will be conducted by the site health and safety officer. That site4specific training program would address elements of the HASP and hazards associated with that specific site and tasks. Only personnel who have successfully completed the site4 specific training would then be allowed to enter the site to work.

3.3 PERIODIC TRAINING

If required, weekly follow4up training sessions, including discussions of operational problems and compliance with the site4specific health and safety plan, will be conducted by the Site Health and Safety Officer for personnel assigned to work at the site. Before any change that affects the on4site field work is implemented, a meeting to explain health and safety procedures will be held. Daily safety briefings will also be conducted as needed to update personnel on specific health and safety requirements.

4.0 MEDICAL SURVEILLANCE

4.1 MEDICAL MONITORING

Personnel entering an "Exclusion Zone" or "Contamination Reduction Zone" must meet the medical monitoring requirements of 29 CFR 1910.120. OSHA's 29 CFR 1910.120 regulation requires that employers implement a medical monitoring program consistent with paragraph (f) of the standard. This standard states that employees are to be medically examined before they are hired, at least once a year thereafter, and after injuries or overexposures.

4.2 POST-EXPOSURE/INJURY MONITORING

Any employee injured or suspected of being injured as a result of an uncontrolled release of hazardous substance or energy, or another emerge ncy situation will be medically evaluated as soon as possible. The attending doctor will be giv en a copy of the OSHA Hazardous Waste Site regulations and its appendices (29 CFR 1910.120). The doctor will also be given:

A description of the employee's duties as they relate to the person's physical and chemical exposures.

A description of personal protective equipment used.

A description of the employee's exposure levels.

Information from previous medical examinations of the person.

5.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN

The site4specific health and safety plan, which add resses concerns on this project, is outlined in the next section.

SITE HEALTH & SAFETY PLAN (HASP)

5.1 WORK LOCATION & DESCRIPTION   Project Number 161803

1. Name: Valley Asphalt

2. Location: 1901 – 1903 Dryden Road Prepared by: Henry M. Butcher

   Moraine, Ohio   Date: April 25, 2013

   Reviewed by: Katherine H. Beach, R.E.M .

   Date: April 26, 2013

   Approved by:

   Date:

3. Type: Hazardous Waste Site (X) Industrial ( ) Construction ( )

   Other ( ) Describe

4. Anticipated Activities: Soil Vapor Intrusion Mitigation

5. Size: Total = 104acres; Work Areas < 14acre

6. Surrounding Population: Site sits atop South Dayton Dump & Landfill (SDDL); surrounding population is commercial and light industry, with residential areas about ¼4 mile away .

7. Buildings/Homes/Industry: Industrial Slab4on4grade or crawlspace.

8. Topography: Relatively flat, with storage piles

9. Weather Anticipated: Varied

10. Site History: The SDDL operated from the early 1940s to 1996 and is partially filled sand and gravel pit. The SDDL contains household waste, drums, metal turnings, fly ash, foundry sand, demolition material, wooden pallets, asphalt, paint, paint thinner, oils, brake fluids, asbestos, solvents, transformers and other industrial materials known to have been brought to the SDDL site. As the excavated areas of the SDDL site were filled, some of the property was sold and/or leased to businesses along Dryden and East

River Roads. Valley purchase Parcel 5054, consisting of approximately 10– acres, on May 7, 1993.

5.2 HAZARD DESCRIPTIONS

1. PPE Level: A ( ) B ( )

Unknown ( ) C ( ) D (X)

Justification This description is based on the chemical hazards known to be present.

2. Types of Hazards:

A. Chemical (X) Inhalation ( ) Explosive (X)

Ingestion (X) O_2 Def. ( ) Skin Contact (X)

Toxic ( )

B. Biological: ( )

Describe: N/A

C. Physical: Cold Stress (X) Noise (X)

Heat Stress (X) Other ( )

Describe: Heat stress or cold stress could be a factor, depending on weather. Noise will be generated during coring activities (during installation of the SSDS).

D. Radiation (type, etc.)

Describe: None known

3. Nature of Hazards:

Air (X) Describe: ______

Soil (X) Describe: : ____________________

Surface Water ( ) Describe: N/A ____________________

____

Ground Water ( ) Describe: ____________________

Other ( ) Describe: ____________________

____

4. Chemical Contaminants of Concern:

Contaminant	PEL, TLV, STEL	IDLH (PPM)	Characteristics	Route of Exposure	Symptoms of Exposure	Monitoring Instrument
Trichloroethylene	PEL = 100 PPM	1000 PPM	Colorless liquid with a chloroform like odor	Inhalation, ingestion, skin and eye contact	Irritation to the eyes, nose, throat, cough, pulmonary secretions, chest pain Potential Human Carcinogen	Air Sampling
Methane	PEL = 1000 PPM TLV = 1000 PPM	4500 PPM	Colorless gas	Inhalation, ingestion, skin and eye contact	Simple Asphyxiant, respiratory conditions may be aggravated by over exposure	Air sampling
Benzene	PEL = 1 PPM TLV = 0.1 PPM	500 PPM	Colorless to light4yellow liquid with an aromatic odor	Inhalation, ingestion, skin and eye contact	Irritation to eyes, skin, nose, headache, nauseau Potential Human Carcinogen	Air sampling
Vinyl Chloride	PEL =1 PPM	Not Determined	Colorless gas or liquid with a pleasant odor at high concentrations	Inhalation, skin and eye contact	Weak, abdomen pain, GI Bleeding Potential Human Carcinogen	Air Sampling

5. Physical Hazards (X)

Hazard	Activity	Location	Control Measures
Abrasions	Manual labor	Buildings 2, 4 and 5	Work gloves
Lacerations	Cutting and/or power tools	Buildings 2, 4 and 5	Kevlar gloves
Flying Objects	All	Buildings 2, 4 and 5	Safety glasses
Falling Objects	All	Buildings 2, 4 and 5	Hard Hat and Steel Toe footwear
Fire/Explosion	Cutting and/or power tools	Buildings 2, 4 and 5	Hot Work Permit, Including Administrative Controls

6. Air Monitoring Readings (X)

Readings of Gas Meter must be taken at 154minute increments throughout work in Buildings 2, 4 and 5. Gas Meter must operate continuously throughout work performed in Buildings 2, 4 and 5. Record readings below:

Building: Date/Time:	Building: Date/Time:	Building: Date/Time:
% O_2	% O_2	% O_2
% LEL	% LEL	% LEL
VOCs (ppb or ppb)	VOCs (ppb or ppb)	VOCs (ppb or ppb)
Other: ____________________	Other: ____________________	Other: ____________________

Building: Date/Time:	Building: Date/Time:	Building: Date/Time:
% O_2	% O_2	% O_2
% LEL	% LEL	% LEL
VOCs (ppb or ppb)	VOCs (ppb or ppb)	VOCs (ppb or ppb)
Other: ____________	Other: ____________	Other: ____________

Building: Date/Time:	Building: Date/Time:	Building: Date/Time:
% O_2	% O_2	% O_2
% LEL	% LEL	% LEL
VOCs (ppb or ppb)	VOCs (ppb or ppb)	VOCs (ppb or ppb)
Other: ____________	Other: ____________	Other: ____________

Building: Date/Time:	Building: Date/Time:	Building: Date/Time:
% O_2	% O_2	% O_2
% LEL	% LEL	% LEL
VOCs (ppb or ppb)	VOCs (ppb or ppb)	VOCs (ppb or ppb)
Other: ____________	Other: ____________	Other: ____________

5.3 PERSONAL PROTECTIVE EQUIPMENT

1. Level of Protection

A ( ) B ( ) C ( ) D (X)

Location/Activity: Soil Vapor Extraction Installation

A ( ) B ( ) C ( ) D ( )

Location/Activity ______________________________

____

2. Protective Equipment

Respiratory __________ (X) N/A	Clothing ( ) N/A
( ) SCBA, Airline	( ) Fully Encapsulating Suit
( ) Full Face Respirator	( ) Chemically Resistant Splash Suit
	( ) Apron, Specify ________
( ) Escape Mask	( ) Tyvek Coverall
	( ) Saranex Coverall
( ) None	( ) Coverall, Specify ______
( ) Other ________________	(X) Other: Standard work clothes
________________	( ) Other: Nomax Coveralls

Head & Eye __________ (X)	Hand Protection (X)
(X) Hard Hat	( ) Undergloves Nitrile________
( ) Goggles	(X) Gloves Work Gloves_____
	________________ Type
( ) Face Shield	( ) Overgloves ____________ Type
( ) Chemical Eyeglasses	( ) None
( ) None	
(X) Other Safety Glasses, ____________	(X) Other Kevlar________________

Hearing Protection ______ (X) When using power tools ________

Foot Protection ( ) N/A

(X) Safety Boots

( ) Disposable Overboots

( ) Other

3. Monitoring Equipment (X)

( ) CGI

( ) PID

( ) O_2 Meter

( ) FID

( ) Rad. Survey

(X) Other Methane Monitor

(X) Type4 TBD; must include O_2, LEL, VOC, others as indicated

5.4 PERSONNEL DECONTAMINATION

(Attach Diagram if required) Required ( ) Not Required (X)

Equipment Decontamination (Attach Diagram if required)

Required ( ) Not Required (X)

If required, describe and list equipment: See Section 21.0, "Decontamination."

5.5. SITE PERSONNEL

Name

1. Tim Boehmer
2. Ken Boehmer
3. Ron Price

5.6 ACTIVITIES COVERED UNDER THIS PLAN

Task No.	Description	Preliminary Schedule
1	Soil Vapor Extraction Installation	As notified by client.

5.7 EVALUATION OF SUBCONTRACTOR'S HEALTH AND SAFETY PROGRAM

Name and Address of Subcontractor: ______________ ____________________________

Activities to be Performed by Subcontractor:______ ______________________________

EVALUATION CRITERIA

Item	Adequate	Inadequate	Comments
Medical Surveillance Program	( )	( )	____________________
Personal Protective Equipment	( )	( )	____________________
On4Site Monitoring Equipment	( )	( )	____________________
Safe Working Procedures	( )	( )	____________________
Training Protocols	( )	( )	____________________
Emergency Procedures	( )	( )	____________________
Evacuation Procedures Contingency Plan	( )	( )	____________________
Decontamination Procedures Equipment	( )	( )	____________________
Decontamination Procedures Personnel	( )	( )	____________________
Incident/Injury Rate	( )	( )	____________________

EVALUATION CONDUCTED BY: ____

DATE: ______________________

5.8 CONTINGENCY CONTACTS

Agency	Contact	Phone Number
Fire Department		911
Police Department		911
Emergency Medical Service/ Ambulance		911

5.9 CONTINGENCY PLANS

If during work activities on4site a release or acc ident occurs, the following emergency communication steps should be taken immediately:

1) Emergency communications are to be made verbally (face4to4face, radio or phone), by vehicle horns, by hand/arm signals, or by hand4held sirens;

2) One long blast of a siren or one arm continuousl y waving over a worker's head means to stop work and return to a pre4determined muster location;

3) Repeated short blasts of a siren or both arms co ntinuously waving over a worker's head will mean that an emergency condition exists on4si te and employees are to leave the site immediately and gather at the site gate.

In a life4threatening situation, decontamination p rocedures will be ignored.

In the event of a fire, follow instructions on the Hot Work Permit. Fire extinguishers will be made readily available within the work area to fight fires.

5.10 EMERGENCY PHONE NUMBERS

EMERGENCY PHONE NUMBERS	
AMBULANCE	911
FIRE DEPARTMENT	911
POLICE	911

5.11 SITE CONTROL

Site workers will not be physically exposed to the solid/hazardous waste that lies below the surface of the Site. It is expected, however, that workers will be exposed to low levels of volatile organic compounds (VOCs) and methane once they enter Buildings 2, 4 and 5. As required in Sections B.5 and C.2 of this HASP, administrative controls must be employed to eliminate these hazards before additional work may proceed. In addition, once the concrete slabs associated with Buildings 2, 4 and 5 are penetrated in preparation of installation of the sub4slab depressurization systems (SSDSs), workers may encounter additional exposure to low levels of volatile organic compounds (VOCs) and methane rising from beneath the sub4slab. As required in Sections B.5 and C.2 of this HASP, administrative controls must continue to eliminate these hazards before additional work may proceed.

5.12 SITE HEALTH AND SAFETY PLAN

I have read, understood, and agreed with the inform ation set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.

Name	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name	Signature	Date

6.0 AIR MONITORING AND SITE ENTRY CRITERIA

Level Action

RADIATION
Background 4 1 mrem/hr Continue

mrem/hr 4 10 mrem/hr Proceed with CAUTION at direction of radiation physicist

10 + mrem/hr Exit

OXYGEN
19.5% 4 25.0% Continue

Less than 19.5% SCBA required, combustible gas meters not reliable.

Greater than 25.0% Exit

COMBUSTIBLE GAS
Less than 10% of LEL Continue

10% 4 25% of LEL Proceed with CAUTION

Greater than 25% of LEL Exit

ORGANIC VAPOR (VOC)
Background Level D

> Background 4 5 PPM Level "C" with constant monitoring with OVA and/or photo4ionizer.

5 4 500 PPM Level "B" with routine monitoring

500 4 1000 PPM Level "A" with routine monitoring

THESE CRITERIA ARE GUIDELINES WHICH TO BASE ENTRY DECISIONS. THEY ARE NOT GUARANTEES OF SAFETY AND ARE INTENDED ONLY FOR USE BY FULLY TRAINED AND QUALIFIED PERSONNEL.

7.0 LEVELS OF PROTECTION

I. INTRODUCTION

Personnel must wear protective equipment when work activities involve known or suspected atmospheric contamination, when vapors, gases, or particulate may be generated, or when direct contact with skin4effecting substances may occur. Respirators can protect lungs, gastrointestinal tract, and eyes against air toxicants. Chemical4resistant clothing can protect the skin from contact with skin4destructive and absorbable chemicals. Good personal hygiene limits or prevents ingestion of material.

Equipment to protect the body against contact with known or anticipated chemical hazards has been divided into four categories according to the degree of protection afforded:

- Level A: Should be worn when the highest level of respiratory, skin, and eye protection is needed.

- Level B: Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection. Level B protection is the minimum level recommended on initial site entries until the hazards have been further defined by on4 site studies and appropriate personnel protection utilized.

- Level C: Should be selected when the type(s) of airborne substance(s) is known, the concentration(s) is measured, and the criteria for using air4purifying respirators are met.

- Level D: Should not be worn on any site with respiratory or skin hazards. Is primarily a work uniform providing minimal protection.

The Level of Protection selected should be based primarily on:

- Type(s) and measured concentration(s) of the chemical substance(s) in the ambient atmosphere and its toxicity.

- Potential of measured exposure to substances in air, splashes of liquids, or other direct contact with material due to work being performed.

In situations where the type(s) of chemical(s), concentration(s), and possibilities of contact are not known, the appropriate Level of Protection must be selected based on professional experience and judgment until the hazards can be better characterized.

While personal protective equipment reduces the potential for contact with harmful substances, ensuring the health and safety of response personnel requires, in addition, safe work practices, decontamination, site entry protocols, a nd other safety considerations. Together these protocols establish a combined approach for reducing potential harm to workers.

II. LEVELS OF PROTECTION - EQUIPMENT DESCRIPTION

A. Level A Protection

1. Personal Protective Equipment

- Pressure4demand, self4contained breathing apparat us, approved by the Mine Safety and Health Administration (MSHA) and National Insti tute of Occupational Safety and Health (NIOSH).
- Fully encapsulating chemical4resistant suit
- Coveralls*
- Long cotton underwear*
- Gloves (outer), chemical4resistant
- Gloves (inner), chemical4resistant
- Boots, chemical4resistant, steel toe and shank. (Depending on suit construction, worn over or under suit boot)
- Hard hat* (under suit)
- Disposable protective suit, gloves, and boots* (Worn over fully encapsulating suit)
- 24way radio communications (intrinsically safe)

2. Criteria For Selection

Meeting any of these criteria warrants use of Level A Protection:

- The chemical substance(s) has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on:

4 measured (or potential for) high concentration(s) of atmospheric vapors, gases, or particulate

4 or 4

4 site operations and work functions involving high potential for splash immersion, or exposure to unexpected vapors, gases, or particulate

4 Extremely hazardous substances (for example: dioxin, cyanide compounds, concentrated pesticides, Department of Transportation Poison "A" materials, suspected carcinogens, and infectious substances) are known or suspected to be present, and skin contact is possible.

4 The potential exists for contact with substances that destroy skin.

4 Operations must be conducted in confined, poorly ventilated areas until the absence of hazards requiring Level A protection is demonstrated.

4 Total atmospheric readings on the Century OVA System, HUN, and similar instruments indicate 500 to 1,000 ppm of unidentified substances.

3. <u>Guidance on Selection Criteria</u>

The fully encapsulating suit provides the highest degree of protection to skin, eyes, and respiratory system if the suit material is resistant to the chemical(s) of concern during the time the suit is worn and/or at the measured or anticipated concentrations. While Level A provides maximum protection, the suit material may be rapidly permeated and penetrated by certain chemicals from extremely high air concentrations, splashes, or immersion of boots or gloves in concentrated liquids or sludge. These limitations should be recognized when specifying the type of chemical4resistant garment. Whenever possible, the suit material should be matched with the substance it is used to protect against.

The use of Level A protection and other chemical4resistant clothing requires evaluating the problems of physical stress, in particular, heat stress associated with the wearing of impermeable protective clothing. Response personnel must be carefully monitored for physical tolerance and recovery.

Protective equipment, being heavy and cumbersome, decreases dexterity, agility, visual acuity, etc., and so increases the probability of accidents. This probability decreases as less protective equipment is required. Thus, increased probability of accidents should be considered when selecting a level of protection.

B. Level B Protection

1. <u>Personal Protective Equipment</u>

• Pressure4demand, self4contained breathing apparatus (MSHA/NIOSH approved)

• Chemical4resistant clothing (overalls and long4sleeved jacket; coveralls; hooded, one4 or two4piece chemical4splash suit; disposable chemical4resistant coveralls)

• Coveralls*

• Gloves (outer), chemical4resistant

• Gloves (inner), chemical4resistant

• Boots (outer), chemical4resistant, steel toe and shank

• Boots (outer), chemical4resistant (disposable)*

• Hard hat (face shield)*

• Two4way radio communications (intrinsically safe)

*Optional

2. Criteria For Selection

Meeting any one of these criteria warrants use of Level B protection:

• The type(s) and atmospheric concentration(s) of toxic substances have been identified and require the highest level of respiratory protection, but a lower level of skin and eye protection. These would be atmospheres:

4 with concentrations Immediately Dangerous to Life and Health (IDLH)

4 or 4

4 exceeding limits of protection afforded by a full 4face, air4purifying mask

4 containing substances for which air4purifying canisters do not exist or have low removal efficiency

4 or 4

4 containing substances requiring air4supplied equipment, but substances and/or concentrations do not represent a serious skin hazard.

• The atmosphere contains less than 19.5% oxygen.

• Site operations make it highly unlikely that the small, unprotected area of the head or neck will be contacted by splashes of extremely hazardous substances.

• Total atmospheric concentrations of unidentified vapors or gases range from 5 ppm to 500 ppm on instruments such as the Century OVA System or HNU photo4ionizer, and vapors are not suspected of containing high levels of chemicals toxic to skin.

3. Guidance on Selection Criteria

Level B equipment provides a high level of protection to the respiratory tract but a somewhat lower level of protection to skin. The chemical4resistant clothing required in Level B is available in a wide variety of styles, materials, construction detail, permeability, etc. These factors all affect the degree of protection afforded. Therefore, a specialist should select the most effective chemical4resistant clothing (and fully en capsulating suit) based on the known or anticipated hazards and/or job function.

Generally, if a self4contained breathing apparatus is required, Level B clothing rather than a Level A fully encapsulating suit is selected, based on the protection needed against known or anticipated substances affecting the skin. Level B skin protection is selected by:

- Comparing the concentrations of known or identifi ed substances in air with skin toxicity data.
- Determining the presence of substances that are d estructive to and/or readily absorbed through the skin by liquid splashes, unexp ected high levels of gases or particulates, or other means of direct contact.
- Assessing the effect of the substance (at its mea sured air concentrations or splash potential) on the small area of the head and neck u nprotected by chemical4resistant clothing.

For initial site entry and reconnaissance at an ope n site, approaching whenever possible from the upwind direction, Level B protection (with good quality, hooded, chemical4resistant clothing) should protect response personnel, provid ing the conditions described in selecting Level A are known or judged to be absent. For cont inuous operations, the aforementioned criteria must be evaluated.

At 500 ppm total vapors/gases, upgrading to Level A protection may be advisable. A major factor for re4evaluation is the presence of v apors, gases, or particulates requiring a higher degree of skin protection.

C. Level C Protection

1. <u>Personal Protective Equipment</u>

- Full4face, air4purifying, canister4equipped respi rator (MSHA/NIOSH)
- Chemical4resistant clothing (overalls and long4sl eeved jacket; coveralls; hooded, one4 or two4piece chemical4splash suit; disposable chemical4resistant coveralls)
- Coveralls*
- Gloves (outer), chemical4resistant
- Gloves (inner), chemical4resistant
- Boots (outer), chemical4resistant, steel toe and shank
- Boots (outer), chemical4resistant (disposable)*
- Hard hat (face shield)*

• Escape mask*

• Two4way radio communications (intrinsically safe)

*Optional

2. Criteria For Selection

Meeting any one of these criteria permits use of Level C protection:

• Measured air concentrations of identified substan ces will be reduced by the respirator to at or below the substance's exposure limit, and the concentration is within the service limit of the canister.

• Atmospheric contaminant concentrations do not exc eed IDLH levels.

• Atmospheric contaminants, liquid splashes, or oth er direct contact will not adversely affect the small area of skin left unprotected by chemical4resistant clothing.

• Job functions have been determined not to require self4contained breathing apparatus.

• Total vapor readings register between background and 5 ppm above background on instruments such as the HNU Photo4ionizer and Century OVA System.

3. Guidance on Selection Criteria

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemi cal4resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing air4purifying devices.

The air4purifying device must be full4face mask (MS HA/NIOSH approved) equipped with a canister suspended from the chin or on a har ness. Canisters must be able to remove the substances encountered. Quarter4 or half4masks or cheek4cartridge full4face masks should be used only with the approval of a qualified individual.

In addition, a full4face, air4purifying mask can beused only if:

• The oxygen content of the atmosphere is at least 19.5% by volume.

• The substance(s) is identified and its concentrat ion(s) is measured.

4 The individual passes a qualitative fit4test for the mask.

4 An appropriate cartridge/canister is used, and it s service limit concentration is not exceeded.

An air4monitoring program is part of all response o perations when atmospheric contamination is known or suspected. It is particu larly important that the air be monitored thoroughly when personnel are wearing air4purifying respirators (Level C). Surveillance using direct4reading instruments and air sampling as needed should be conducted continuously to detect any changes in air quality necessitating a higher level or respiratory protection. See Part B for guidance on air monitoring.

Total unidentified vapor/gas concentrations of 5 ppm above background require Level B protection. Only a qualified individual should select Level C (air purifying respirators) protection for continual use in an unidentified vapor/gas concentration of background to 5 ppm above background.

D. Level D Protection

1. Personal Protective Equipment

• Coveralls*

• Gloves*

• Boots/shoes, leather or chemical4resistant, steel toe and shank

• Boots (outer), chemical4resistant (disposable)*

• Safety glasses or chemical splash goggles*

• Hard hat (face shield)*

• Escape mask*

*Optional

2. Criteria For Selection

Meeting any of these criteria allows use of Level D protection:

No hazardous air pollutants have been measured. Work functions preclude splashes, immersion, or potential for unexpected inhalation of any chemicals.

3. Guidance on Selection Criteria

Level D protection is primarily a work uniform. It can be worn in areas where: 1) only boots can be contaminated, or 2) there are no inhalable toxic substances.

III. PROTECTION IN UNKNOWN ENVIRONMENTS

In all site operations, selecting the appropriate personal protection equipment is one of the first steps in reducing the potential for adverse health effects. Until the hazardous conditions presented by an environmental incident can be identified and personal safety measures commensurate with the hazards 44 real or potential44 can be instituted, preliminary measures will have to be based on applying experience, judgment, and professional knowledge to the particular incident at hand. Lack of knowledge concerning the hazards that could be encountered precludes selecting protective equipment by comparing environmental concentrations of known toxicants against protection afforded by each type of equipment.

One of the first considerations in evaluating the risk of an unknown environment is to measure immediate atmospheric hazards such as the concentrations (or potential concentrations) of vapors, gases, and particulate; oxygen content of the air; explosive potential; and, to a lesser degree, the possibility of radiation exposure. In addition to air measurements, visual observation and/or evaluation of existing data can help determine the degree of risk from other materials that are explosive, have high fire potential, are extremely toxic, or exhibit other hazardous characteristics that cannot be monitored by field instruments.

Total vapor/gas concentration as indicated by instruments such as the Century OVA System or the HNU photo4ionizer is a useful adjunct to professional judgment in selecting the Level of Protection to be worn in an unknown environment. It should not be the sole criterion, but should be considered with all other available information. Total vapor/gas concentration should be applied only by qualified persons.

The initial on4site survey and reconnaissance, which may consist of more than one entry, is to characterize the immediate hazards and, based on these findings, establish preliminary safety requirements. As data are obtained from the initial survey, the Level of Protection and other safety procedures are adjusted. Initial data also provide information on which to base further monitoring and sampling. No method can select a level of protection in all unknown environments. Each situation must be examined individually. Some general approaches can be given, however, for judging the situation and determining the level of protection required.

A. Level C.

Level C protection (full4face, air4purifying respirator) should be worn routinely in an atmosphere only after the type(s) of air contaminant(s) is identified and concentrations are measured. To permit flexibility in prescribing a level of protection at certain environmental incidents, a specialist could consider air4purifying respirators for use in unidentified vapor/gas concentrations of a few parts per million. The guideline of total vapor/gas concentration of background to 5 ppm above background should not be the sole criterion for selecting Level C. Since the individual contributors may never be completely identified, a decision on continuous wearing of Level C must be made after assessing all safety considerations including:

- The presence of (or potential for) organic or inorganic vapors/gases against which a canister is ineffective or has a short service life.

- The known (or suspected) presence in air of substances with low TLV or IDLH levels.

- The presence of particulate in air.

- The presence of (or potential for) substances in air which do not elicit a response on the instrument(s) used.

- The potential for higher concentrations in the ambient atmosphere or in the air adjacent to specific site operations.

The continuous use of air4purifying respirators (Level C) should be based on the identification of the substances contributing to the total vapor/gas concentration and the application of published criteria for the routine use of air4purifying devices. Unidentified ambient concentrations of organic/vapors or gasses in air approaching or exceeding 5 ppm above background require Level B protection.

Individuals without appropriate training and/or experience should be discouraged from modifying upward the recommended total vapor/gas concentration guideline and associated levels of protection.

B. Level A

Level A should be worn when maximum protection is needed against substances that could damage the surface of the skin and/or be absorbed through the skin. Since Level A requires the use of a self4contained breathing apparatus, the eyes and respiratory system are also protected. For initial site entry, skin toxicants would exist primarily as vapors, gases, or particulate in air, with a lesser possibility of splash. Continuous operations at an abandoned waste site, for instance, may require Level A due to working with and around severe skin toxicants.

Until air monitoring data are available to assist in the selection of the appropriate Level of Protection, the use of Level A for initial site entries may have to be based on indirect evidence of the potential for atmospheric contamination or direct skin contact.

Considerations that may require Level A protection include:

- Confined spaces: Enclosed, confined, or poorly ventilated areas are conducive to buildup in air of toxic vapors, gases, or particulates. (Explosive or oxygen4efficient atmospheres also are more probable in confined spaces). Low4lying outdoor areas like ravines, ditches, and gullies tend to accumulate any heavier4than4air vapors or gases.

- Suspected/known toxic substances: Various substances may be known or suspected to be involved in an incident, but there are no field instruments available to detect or quantify air concentrations. In these cases, media samples must be analyzed in the laboratory. Until these substances are identified and the levels are measured, maximum protection may be necessary.

- Visible emissions: Visible emissions from leaking containers or railroad/vehicular tank car as well as smoke from chemical fires indicate high potential for concentrations of substances that could be extreme respiratory or skin hazards.

• Job functions: Initial site entries are generall y walk4throughs in which instruments and/or visual observations provide a preliminary ch aracterization of the hazards. Subsequent entries are to conduct the many activiti es needed to reduce the environmental impact of those hazards. Levels of p rotection for later operations are based not only on data obtained from the initial an d subsequent environmental monitoring, but also on the probability of contamin ation. Maximum protection (Level A) should be worn when:

44 there is a high probability for exposure to high concentrations of vapors, gases, or particulate

44 substances could splash, or

44 substances are known or suspected of being extre mely toxic directly to the skin or by being absorbed.

Examples of situations where Level A has been worn are:

44 Excavating of soil suspected of being contaminated with dioxin.

8.0 HAND SIGNALS

Hand Signal	Means:
Hands on top of head.	I need assistance
Gripping partner's wrist or placing both hands around partner's arm.	Leave area immediately
Thumbs up.	OK; I'm all right.
Thumbs down.	No; negative.
Hand gripping throat.	Cannot breathe; out of air.
Pointed finger on extended arm.	Look in that direction.
Waving hands over head from side to side.	Attention; stand4by for the next signal.
Swinging hand up from direction of person receiving signal and continuing in circular motion.	Come here.

9.0 TEMPERATURE STRESS

A. Effects of Heat Stress

If the body's physiological processes fail to maintain a normal body temperature because of excessive heat, a number of physical reactions can occur ranging from mild (such as fatigue, irritability, anxiety, and decreased concentration, dexterity, or movement) to fatal. Standard reference books should be consulted for specific treatment.

Heat4related problems include:

- Heat Rash: Caused by continuous exposure to heat and humid air and aggravated by chafing clothes. Decreases ability to tolerate heat as well as being a nuisance.

- Heat Cramps: Caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasm and pain in the extremities and abdomen.

- Heat Exhaustion: Caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness and lassitude.

- Heat Stroke: The most severe form of heat stress. The body must be cooled immediately to prevent severe injury and/or death. Signs and symptoms are: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

B. Heat Stress Monitoring

For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism. Monitoring of personnel wearing impervious clothing should begin when the ambient temperature is 70°F or above. Frequency of monitoring should increase as the ambient temperature increases or as slow recovery rates are indicated. When temperatures exceed 85 °F workers should be monitored for heat stress after every work period.

- Heart rate (HR) should be measured by the radial pulse for 30 seconds as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 110 beats per minute. If the HR is higher, the next work period should be shortened by 10 minutes (33%), while the length of the rest period stays the same. If the pulse rate is 100 beats per minute at the beginning of the next rest period, the following work cycle should be shortened by 33%.

- Body temperature should be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature (OT) at the beginning of the rest period should not exceed 99 °F. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period stays the same. However, if the OT exceeds 99.7 °F at the beginning of the next period, the following work cycle should be further shortened by 33%. Oral temperature should be measured against the end of the rest period to make sure that is has dropped below 99°F.

- Body water loss (BWL) due to sweating should be measured by weighing the worker in the morning and in the evening. The clothing worn should be similar at both weighings; preferably the worker should be nude. The scale should be accurate to +_ 1/4 lb. Body water loss should not exceed 1.5% of the total body weight. If it does, the worker should be instructed to increase his daily intake of fluids by the weight lost. Ideally, body fluids should be maintained at a constant level during the work day. This requires replacement of salt lost in sweat as well.

10.0 COLD STRESS

A. Effect of Cold Exposure

Persons working outdoors in temperatures at or below freezing may be frostbitten. Extreme cold for a short time may cause severe injury to the surface of the body, or result in profound generalized cooling, causing death. Areas of the body with high surface4area4to4volume ratios such as fingers, toes, and ears are the most susceptible.

Two factors, ambient temperature and the velocity of the wind, influence the development of a cold injury. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. For instance, 10 ¬with a wind of 15 miles per hour (mph) is equivalent in chilling effect to still air at 418¬F.

As a general rule, the greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. In additional, since water conducts heat 240 times faster than air, the body cools suddenly when chemical4protective equipment is removed if the clothing underneath is soaked with perspiration.

Local injury resulting from cold is included in the generic term “frostbite.” There are several degrees of damage. Frostbite of the extremities can be categorized into:

- Frost nip or incipient frostbite: Characterized by suddenly blanching or whitening skin.

- Superficial frostbite: Skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.

- Deep frostbite: Tissues are cold, pale, and solid; extremely serious injury. Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages: 1) shivering, 2) apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body to less than 95 ¬F, 3) unconsciousness, glassy stare, slow pulse, and slow respiratory rate, 4) freezing of the extremities, and finally, 5) death.

B. Prevention of Cold Stress

Cold stress is prevented by wearing adequate clothing in layers, by taking breaks, and through the use of a buddy system evaluation.

11.0 MOTOR VEHICLE OPERATIONS

Operate company vehicles only if you are authorized to do so, and have a valid operator's license or commercial driver's license (CDL) in your possession. Do not permit unauthorized persons to operate or ride in company vehicles. Obey all traffic laws and company safety rules applicable to the operation of the vehicle you are operating.

Use defensive driving techniques at all times. Make allowances for lack of skills and knowledge of others. Drive to prevent accidents in spite of incorrect actions of others and adverse conditions. Drive professionally. Protect yourself and the company by being courteous, safe, dependable, and defensive. Use knowledge, alertness, foresight, good judgment, and skill.

Safety4inspect your vehicle at regular intervals and make any repairs required. Keep your vehicle in good condition at all times.

Keep your vehicle clean and orderly. Debris, cans, bottles, and loose tools are not permitted in the driver's compartments. Make sure the vehicle is equipped with required emergency and warning devices in good condition.

Ensure good visibility by cleaning glass and lights, adjusting mirrors, and keeping wipers in good condition. Use safety belts as provided and required by law. Do not operate a motor vehicle when your physical or mental condition may constitute a hazard.

Do not permit riders on any part of the vehicle except seats with seat belts.

Use extreme caution when backing. Use the horn. Use another person as a guide. Keep constant lookout and always check blind areas. Back slowly; watch all sides. Do not depend entirely on mirrors. Park vehicle legally to reduce chances of an accident.

Do not park closer than 10 feet to traveled road surface unless proper warnings are used.

Secure your load to prevent shifting, sifting, dislodging, or creating a hazard. Do not exceed legal speed limits. Shift to lower gears when descending a steep hill.

Drive professionally and conserve fuel.

12.0 OFFICE AND BUILDING SAFETY

Wipe up spills, eliminate tripping and slipping hazards, pick up loose objects off floor, and keep aisles and steps uncluttered. Good housekeeping is essential.

Keep walkway, storage, and work areas clear and orderly.

Report unsafe conditions immediately.

Know the locations and use of exits, fire extinguis hers, fire alarms, first aid kits, and emergency phone numbers. Know emergency exit and action procedures.

Keep file and desk drawers closed. Open only one drawer at a time to prevent tripping.

Handle sharp objects carefully.

Do not place broken glass, sharp objects, or ash tray contents into waste baskets.

Wear shoes with moderate heels. Flimsy footwear, d angling jewelry, and long draping clothes can be a risk.

Use step ladders, not chairs, for reaching high places.

Use proper lifting methods and carry loads you can see over. Do not read and walk. Approach intersections, corners, and doorways carefully. Do not run.

Avoid tipping chairs over. Be careful of chairs with rollers.

Make certain all electrical equipment is grounded, cords are in safe condition, and the equipment is located so as not to create a tripping or fire hazard. Do not overload circuits.

Be careful in using hazardous liquids. Read labels and follow warnings. Keep such substances in safety containers stored safely.

Be careful with mechanical and cutting equipment. Unplug or lock4out power equipment before adjusting.

Secure equipment properly.

Obey NO SMOKING rules.

13.0 EXCAVATIONS AND SHORING

In all cases , trench excavations are to follow 29 CFR 1926.650, or the latest modification, Occupational Safety and Health Standards, Excavations; final rule.

Any trench or trenching that does not follow these guidelines should not be entered by Bowser4Morner personnel.

In general, any trench deeper than five feet and le ss than 20 feet deep shall be benched and sloped back or braced in accordance with the soil type as specified in 29 CFR 1926.

If any other method is used, the design computation for such a device must be available for review.

Any trench or excavation deeper than 20 feet must h ave a professional engineer's design data sheet available for review.

14.0 CONFINED SPACES

Definition:

Confined Space 44 A space in which, because of its construction, location, contents, or work activity, a hazardous gas, vapor, dust, or fumes or the creation of an oxygen4deficient or 4 enriched atmosphere may occur.

Examples:

Confined spaces are enclosed structures with limite d access such as a manhole, tanks, pits, vats, vaults, bins, silos, pipelines, sewers, tunnels, and wells.

How to Recognize a Confined Space:

Construction

- Is the space totally enclosed?
- What is the number, location and size of openings?

Location

- Is the space above or below floor level?
- Can airborne contaminants accumulate in the space?

Contents

- What is the nature of materials in the space?
- Do they give off toxic gases, fumes, vapors and dusts?
- Is oxygen4enrichment or 4deficiency possible?

Work Activity

- What is the nature of the work to be carried out?
- Will the activity affect oxygen supply?
- Will the process generate heat, toxic gases, dust, etc.?

Potential Hazards

Confined space accidents often result in serious in jury or death. These accidents occur as a result of:

- Inability to identify conditions in the space.
- Lack of training in identifying hazards and control measures.
- Failure to implement protective measures.

a. Toxic Gases, Vapors, Fumes, and Dusts . These can cause serious injury or death and include toxins, asphyxiates and irritants such as a ll gases and vapors known to produce disease; asphyxiates (methane carbon monoxi de; irritants); hydrogen sulfide; and sulfur dioxide.

b. Combustible Gases, Vapors, and Dusts . May ignite in the presence of a source of ignition. Depends on concentration in air 44 withi n the upper and lower explosive limits (UEL, LEL).

c. Oxygen Deficiency . Atmospheres containing less than 18% oxygen 44 n ormal air contains about 21%. The condition may result from purging with inert gases, oxidation, etc.

d. Oxygen Enrichment . Atmospheres containing more than 23% oxygen.

e. Entry of Material from Supply Lines . Liquids and gases

f. Electric Shock . Energized equipment

g. Mechanical . Dangerous moving parts of machinery.

h. Extremes of Temperature and Humidity . Equipment such as boilers, freezers, and ovens.

i. Shifting or Collapse of Bulk Material . Loose material such as grains.

Precautions for Entry

Selection, Education and Training

Selection 44 In selecting persons to enter or work in confined spaces, attention should be paid to the following:

- Physical condition.
- Psychological Suitability 44 the person should no t be adversely affected by closed, cramped spaces or suffer from dizziness.

Training

Training should include:

- Information on actual and potential hazards of th e space.

- Instruction on procedures and precautions for ent ry.
- Pre4entry procedures such as lock out, blanking, atmospheric testing.

Ventilation

- The space should be pressure ventilated when toxi c/combustible atmosphere is present.
- Ventilation should continue throughout the work p eriod.
- Ventilation should also be done to control temper ature.

Fire and Explosion

- Sources of ignition should be removed.
- Electrical equipment should be flame4 and explosi on4proof.
- Except for breathing apparatuses, oxygen and othe r gas cylinders should not be taken into the space.
- Welding and cutting torches should not be left in the space.
- Firefighting equipment should be readily availabl e.

Access/Egress

- Openings should be large enough (244inch4diameter minimum) to permit the entry of workers wearing safety equipment.
- Covers, doors, etc., should be easily opened.
- Ladders should be secured.

Blanking Off

- The work area should be isolated to prevent ingre ss of hazardous substances. Valves may be chained and padlocked. Physical disconnection by blanks or blinds is preferred.

Locking Out

- Agitators, pumps, conveyors, etc., should be lock ed out.

Electric Shock

- Electrical tools and equipment should be grounded . Welding electrodes should be well insulated. Particular attention should be paid to conductive liquids.

Personal Protective Equipment

- Proper PPE to be provided 4 hard hats, goggles, g loves, coveralls, and respiratory equipment.

Work Area Evaluation

- The work area should be evaluated by a competent person before being entered.
- Each work evaluation is to be done separately f or each job, and appropriate records should be kept.
- Permits to work should be issued. It is impossible to design a permit to fit all situations.

  Specific workplace conditions should be considered in designing each permit.

Rescue Plan and Equipment

Attention should be paid to:

- The sizes and locations of openings.
- Rescue gear 44 safety belts, harnesses, and life lines.
- Safety watches.
- First aid and CPR.
- Your location to inform 911 personnel.

15.0 WELDING OR TORCH WORK

No task(s) that produces heat, sparks, or energy su fficient to serve as an ignition source may begin in any location which could potentially h ave ignitable atmospheres, until a Hot Work Protection Procedure has been instituted.

Examples of hot work include welding, cutting, burn ing, soldering, grinding, the use of power tools, and the use of internal combustion engines.

The Site Health and Safety Officer is responsible for obtaining any required hot work permits.

Permits must be reissued at the beginning of each day, each work shift or if the area has not been monitored within one4half hour.

Hot Work Permit Procedures

1. The SHSO is responsible for inspecting each site and determining the specific needs and procedures.
2. A fire watch is required for every activity where hot work could result in other than a minor fire due to ignition of combustibles.
3. Fire extinguishing equipment commensurate with the ignitable matrix and training level of the fire watch must be immediately available at the Hot Work location.
4. A combustible gas meter must be used to survey the Hot Work location and then must be left to constantly monitor the air between the flammable material and the immediate vicinity of the hot work.
5. Welding or cutting on close systems must be specifically approved by the SHSO or the CIH.

16.0 HEAVY EQUIPMENT OPERATION

Preventative maintenance procedures recommended by the manufacturer are to be followed. Any machinery or equipment found to be unsafe will be deadlined and its use prohibited until unsafe conditions have been corrected.

Inspections or determinations of road conditions and structures are to be made in advance to assure that clearances and load capacities are safe for the passing or placing of any machinery or equipment.

Machinery and mechanized equipment is to be operated only by designated personnel. Equipment deficiencies observed at any time that affect their safe operation must be corrected before continuing operation. Seats or equal protection must be provided for each person required to ride on equipment.

Getting off or on any equipment while it is in motion is prohibited. Machinery or equipment requiring an operator must not be permitted to run unattended. Machinery or equipment is not to be operated in a manner that will endanger persons or property nor are the safe operating speeds or loads to be exceeded.

All machinery or equipment will be shut down and positive means taken to prevent its operation while repairs or manual lubrications are being done. Exemption: Equipment designated to be serviced while running.

All repairs on machinery or equipment will be made at a location that will provide protection from traffic for repair persons.

Heavy machinery, equipment, or parts thereof that are suspended or held apart by slings, hoists, or jacks also will be substantially blocked or cribbed before personnel are permitted to work under or between them.

Bulldozers, Scraper Blades, End4Loader Buckets and Dump Bodies

Bulldozers, scraper blades, end4loader buckets, dump bodies, and similar equipment must be either fully lowered or blocked when being repaired or when not in use. All controls are to be in the neutral position, with the engines stopped and brakes set, unless work being performed on the machine requires otherwise.

Stationary machinery and equipment is to be placed on a firm foundation and secured before being operated.

All points requiring lubricating during operation are to have fittings so located or guarded to be accessible without hazardous exposure.

When necessary, all mobile equipment and the operating area will be adequately illuminated while work is in progress.

Mechanized equipment is to be shut down before and during fueling operations. Closed systems with automatic shut4offs to prevent spillage if connections are broken may be used to fuel diesel4powered equipment left running.

All towing devices used on any combinations of equipment must be structurally adequate for the weight drawn and securely mounted. Persons are not permitted to get between a towed and a towing piece of equipment until the towing equipment has been stopped.

All equipment with a windshield must be equipped with powered wipers. Vehicles that operate in conditions that cause fogging or frosting of windshields must be equipped with operable defogging and defrosting devices.

All equipment left unattended at night, next to a highway in normal use, or next to construction areas where work is in progress must have lights or reflectors, or barricades equipped with lights or reflectors, to identify the location of the equipment.

Whenever the equipment is parked, the parking brake is to be set. Equipment parked on inclines is to have wheels chocked or the track mechanism blocked and the parking brake set.

The controls of loaders, excavators, or similar equipment with folding booms or lift arms are not to be operated from a ground position unless so designed. Personnel are not to work or pass under the buckets or booms of loaders in operation.

17.0 HAND AND POWER TOOL SAFETY

Unsafe hand tools are not to be issued or used. Al l hand tools are to be kept in good repair and used only for the purpose for which they were d esigned. Wrenches with sprung jaws where slippage could occur, impact tools with mushroomed heads, and wooden4handled tools with cracks or splinters are examples of unsafe hand tools.

Tools having defects that will impair their strengt h or render them unsafe will be tagged or made inoperable and removed from service.

Guards must be in place during operation on all pow er tools designed to accommodate them. Guards and safety devices must remain in pla ce on power tools unless removed according to the manufacturer's instruction for maintenance b y a competent person; the guards must be replaced before the equipment is used. Belts, gear s, shafts, drums, fly wheels, chains or other rotating, reciprocating or moving parts exposed to employee contact or representing other hazard must be guarded.

Proper personal protective equipment must be used w hen operating power tools or hand tools that may produce projectiles, cuts, abrasions , dusts, fumes, mists, or light, or which pose a risk of harm to arms, legs, or feet if dropped.

When work is being performed overhead, tools not in use are to be secured or placed in holders.

Throwing tools or materials from one location to an other, from one person to another, or dropping them to lower levels, is not permitted

Only non4sparking tools are to be used in locations where sources of ignition may cause a fire or explosion.

Power tools are to be inspected, tested, and determ ined to be safe for operation prior to use. Continued periodic inspections are to be made to as sure safe operating condition and proper maintenance.

Electric4powered tools must be approved double insu lated or grounded in accordance with 29 CFR 1926.404.

Rotating or reciprocating portable power tools must have a constant pressure switch that will shut off the power when the tool is released b y the operator. A portable power tool may have a lock4on control if it can be turned off by a single motion of the same finger or fingers that turned it on.

All hydraulic or pneumatic tools which are used on or around energized lines or equipment will have non conducting hoses having adequate strength for the normal operating pressures.

Loose and frayed clothing, loose long hair, danglin g jewelry, rings, chains, and wrist watches will not be worn while working with any power tool or machine.

18.0 ILLUMINATION

Construction site offices, stairways, passageways, construction roads, and working areas are to be lighted while work is in progress by at least the following minimum light intensities:

Facility Name or Function	Lighting Intensity (Foot Candles)
Accessways 4 General Indoor	5
Accessways 4 General Outdoor	3
Administrative Areas (Offices, Drafting Rooms, Conference Rooms, etc.)	50
Barracks, BOQ's Mess Halls, Base Exchanges	30
Construction Areas	5
Indoor 4 General	5
Outdoor 4 General	3
Concrete Placement Operation	3
Excavation and Fill Areas	3
Docks and Loading Platforms	3
Exitways, Walkways, Ladders, and Stairways	10
Maintenance, Operating and Construction Shops and Areas	
Aircraft Maintenance	50
Auto Maintenance Shops	30
Carpenter Shops	10
Field Maintenance Area Outside	5
Refueling 4 Outside	5
Shops 4 Medium Work	30
Mechanical and Electrical Equipment Rooms	10
Medical and First4Aid Stations	30
Toilets and Wash Rooms	10
Tunnels and General Underground Work Areas	5
Warehouses and Storage Rooms and Areas	
Active or Bulk Storage 44 Inside	10
Inactive Storage 44 Inside	5
Stockrooms	10
Outside Storage 44 Active	3
Work Areas 44 General	30

Where artificial light is required, it is to be maintained until personnel have had an opportunity to leave the area.

19.0 LADDERS

- Use approved, correct4size ladders designed for t he job.
- Never use metal ladders near energized lines or e quipment.

- Check the ladder's condition and use it only if i t's safe; tag, report, and take defective ladders out of service.
- Place the ladder base not less than one4fourth of its working length from the supporting surface (a 4 to 1 ratio) and not more th an one4third of the working length from the supporting surface unless it's securely held or tied in place.
- Inspect ladders regularly, maintain in good condi tion, and store properly. Do not paint ladders.
- Fasten ladders securely when transporting. Use p roper lifting and safety precautions when carrying them.
- Never use a box or chair in place of a ladder.
- Place ladder on a firm, substantially level base 44 not on a movable object. Place the ladder so that side rails have a secure footing on solid ground to prevent sinking.
- Never place a ladder against insecure support.
- Make sure straight ladders have non4skid feet or are securely tied off.
- Fasten ladders placed against aerial cable strand s and secure the user properly.
- Make sure the top of the ladder extends three fee t above the landing and is secured.
- Do not leave a placed ladder unattended. Remove ladders at the end of the work day.
- Ascend or descend ladders one step at a time, fac ing the ladder and using both hands.
- Make sure your footwear is not greasy, muddy, or slippery. Use extreme caution during wet or icy weather.
- Do not climb a ladder while wearing climbers.
- Do not climb higher than the third rung from the top on straight ladders or the third step from the top on stepladders.
- Do not shift the position or "walk" a ladder whil e on it.
- Keep both feet on the ladder and do not overreach .
- Do not walk or stand under a ladder holding a wor ker.
- Fully extend the stepladder spreader and set the locking device before climbing the ladder.
- Do not use a stepladder as a straight ladder.
- Do not place a ladder near an unsecured door.

20.0 BORING SAFETY

Pre-Subsurface Exploration Work

Although predicting every contingency that may occur during subsurface exploration is difficult, the items listed below are very important. Following them will help reduce the chance of an injury occurring on the job site. The crew chief should always, always:

- Complete the vehicle inspection checklist before each trip.
- Review maps showing underground and overhead utilities if they're available.
- Call local utility companies and the Ohio Utilities Protection Service (OUPS) to ask them to physically mark the locations of any underground utility lines. Remember that the utility companies need 2 working days notice.
- Visually inspect the area where the subsurface exploration will take place for signs of utilities such as gas lines, manholes, water lines, electric lines, etc.
- Review any available site map with a client representative to determine where the utilities are.
- If necessary, surveying may need to be done to locate underground utilities.
- Obtain proper permits from the client representatives before you start work. these permits include hot work, lockout/tagout, utility clearance, etc.
- Check the area for overhead power lines. If the lines are within 10 to 20 feet of the planned work area, the decision of whether the power lines need to be de4energized or insulated before subsurface exploration begins must be made by the client and/or the crew chief.
- If you are working around process lines inside or outside of a plant, extreme caution needs to be taken during the subsurface exploration. If you smell any unusual odors, hit a process line, or notice any other signs that may indicate that the lines are leaking, the area should be evacuated and the proper plant personnel should be notified. Air sampling or another sampling method may be required before safe access to that area can be obtained.

Mobilization

For your safety, you should follow the steps listed below when you mobilize to a job site.

- First, you should inspect the boring rig using the subsurface exploration equipment checklist, a copy of which is attached.

- Before you mobilize to the actual exploration site, you should walk the route of travel looking for creeks and streams, depressions, gullies, ruts, debris, plant hazards such as overhanging branches, and other possible hazards. You should also be sure that the ground is solid enough for heavy equipment to travel safely on it.

- You must also make sure that plant personnel, pedestrians, or any other by standers are clear of equipment when the rig is moving.

- When the equipment has been moved to the boring location, you should set the brakes. You should also make sure that the rig is level before the subsurface exploration begins.

- Always use extreme caution when you travel up or down steep grades. Whenever possible, travel directly downhill or uphill. If you travel at an angle down or up a hill, the center of gravity of the rig or truck may shift as the tools move, perhaps causing an accident.

- When you travel up a steep grade, you should anchor the winch line from the boring rig to a suitable unmovable object at the top of the grade if at all possible.

- You should cross relatively small obstacles like logs, ditches, and channels squarely, not at an angle.

- When overhead or lateral clearance is restricted, you should use a "spotter" to keep you aware of where your rig and other objects are.

- THE ONLY TIMES YOU MAY TRAVEL WITH THE DERRICK OF THE RIG IN THE PARTIAL OR FULLY RAISED POSITIONS ARE WHEN:

  The surface between the locations is generally flat, no overhead wires are in the area, no public traffic is in the area, and the next location is no more than 300 feet away. If a rig is moving with the derrick or spindle in the up position, a spotter must be at the rear of the rig.

- Do not raise the derrick or operate the rig if the distance to overhead power lines is less than 10 feet. A general rule of thumb is the distance between the overhead power line and the boom should not be less than the height of the boom.

Remember to " ALWAYS LOOK UP ".

And don't forget that power lines can and will move when it is windy. Always keep a close eye on the power lines when they are moving due to the wind. If the lines move too close to the rig, you should stop work and consider having the local utility company cover the power lines or wait for the winds to die down before you begin boring again.

- Do not leave the equipment running or idling unat tended. The vibrations from the rig may cause the rig to move accidentally.

- “Tailgate” safety meetings must be held once a we ek. In addition, these meetings must be documented.

<u>Pre-Subsurface Exploration Preparation And Initial Exploration</u>

Before you do the rest of the pre4subsurface explor ation preparations, you should review <u>each</u> item listed below at <u>each and every</u> subsurface exploration location.

- If you are working in an exclusion zone, proper b arricades should be placed around it.

- You must set the brakes be<u>fore</u> the subsurface exploration activities begin. If y ou are working on a steep grade, the wheels should be chocked to keep the rig from tipping over or moving. The level jacks should als o be used to keep the rig stable during the exploration.

- To keep the rig jacks from sinking, you should place blocks under rig jacks.

- If you are working on the mast above five feet, you should use a safety harness. If you can, you should lower the mast so fall protecti on does not become an issue when working on the mast.

- You should also inspect the rig pulley sheaves for wear and proper cable/rope positioning.

After you complete the pre4boring preparation, the following items should be reviewed with your fellow employees:

- You must make sure that every employee knows the location of the “kil l switch” and how to use it.

- While the engine is being started, the rig personne l and bystanders must stand clear of the rig.

- Before you start the rig engine, you should double4 check to make <u>sure</u> that all gear boxes are in neutral, that every hydraulic lever is in the correct non4actuating position, that the cathead rope is not on the cathe ad, and that all of the hoist levers are disengaged.

- You should check the brakes and the hydraulic syste m on the derrick by raising it a few inches to see if it holds or bleeds off.

- YOU MUST ALWAYS CHECK FOR OVERHEAD POWER LINES .
- Place the fire extinguisher in an easily accessible location.

Subsurface Exploration

This section of the safety plan is where the most s evere accidents can happen. These items need to be reviewed regularly with crew chiefs and technicians:

- Only necessary and authorized personnel should be in the exclusion zone during subsurface exploration operations.
- Hard hats, ear plugs, gloves, safety glasses, and steel4toed boots (weather permitting) should be worn at all times during augering or boring operations.
- Every employee should wear safety goggles when we lding, grinding, chipping, or hammering on metal. Safety glasses or goggles must be worn on any job where there is a hazard to the eyes.

Every employee should also:

- Wear protective gloves when handling cable, auger s, rods, or any sharp, jagged or splintery materials.
- Wear appropriate personal protective equipment as outlined in the site health and safety plan, such as proper gloves for different chemicals.
- Wear noise protection if the employee is working around the boring operations and if necessary.
- Never perform maintenance activities or refueling while equipment is running.
- Never, ever work in a lightning storm.
- Be trained in the use of hand signals and knows w hat each means.
- Never climb the mast when the equipment is runnin g.

In addition:

- Only qualified personnel should operate the rig.
- The hydraulic lines should be inspected periodica lly for signs of leaks.

- A shovel should be used to place soil next to or away from auger when a test boring is being backfilled or advanced. You should never use to feet to kick soil toward or away from the auger 44 whether it is rotating or stationary.
- You should stand clear of the auger or rod during rotation. Never clean the auger flight with your hand while the auger rotates.
- You should always use the proper tools for the job.
- You should be absolutely sure that the person acting as technician is clear of all moving parts before you start to auger or bore.

You should also:

- Use caution when erecting, operating, or moving equipment in or near an area where other people are working.
- Keep the job site clear of all debris, and move tools or equipment out from under foot.
- When using a hoist or cable, be sure all employees are out of the danger zone and use extreme caution.
- Never carry hand tools loosely in your pockets when you are working on the overhead mast.
- Never throw or drop any material or tool from overhead; instead, lower it with a rope or carry it down.
- Use a hoisting elevator to remove the rod from the hole. Do not use a pipe wrench as an elevator, and be sure that all of the wrenches are removed from rod before hoisting overhead.
- Visually inspect the rope daily for abrasions, broken fibers, cuts, fraying, or other defects. If the examination reveals any of the above defects, a new rope must be placed in service and the old rope should be discarded.
- Keep all tools, equipment, and trucks in good repair.
- Respect the equipment you are working with in the same manner as a loaded gun. Do not take chances because of familiarity.
- If you consider a site or a situation unsafe, Do Not Continue the Work until you bring your concern to the attention of your supervisor. When the site or situation is corrected, you may continue to work.

- Place lighted barricades at all obstructions left overnight in congested areas.

- In the case of emergency, know where your designated safe area is. Pre4planned evacuation routes are paramount. Know where your equipment is you do not run into it when you are evacuating a site in an emergency.

- Put the derrick and spindle down and all jacks or outriggers up when moving the rig between locations. It's standard procedure.

THE ONLY TIMES YOU MAY TRAVEL WITH THE DERRICK OF THE RIG IN THE PARTIAL OR FULLY RAISED POSITIONS ARE WHEN:

The surface between the locations is generally flat, no overhead wires are in the area, no public traffic is in the area, and the next location is no more than 300 feet away. If a rig is moving with the derrick or spindle in the up position, a spotter must be at the rear of the rig.

Decontamination of Equipment

Because decontaminating subsurface exploration tooling involves high4pressure equipment, hot water, and heavy equipment, it can be dangerous. To keep yourself safe, remember to:

- Obtain the proper permits when required to use the steam cleaner. such as a "hot work" permit.

- Follow the decontamination requirements given in the Health and Safety Plan. When the Health and Safety Plan does not apply, follow company policies.

- Chock the wheels before you decontaminate the equipment.

- When decontaminating equipment, proper personal protective equipment should be worn to prevent possible contact with contaminants or debris.

- Inspect the steam cleaner before starting to decontaminate the equipment, looking for leaking hoses or other possible defects that may injure employees or bystanders.

- Never point the wand toward your body or another person when the steam cleaner is in use.

- In cold weather, use an antifreeze solution to keep the water from freezing on or inside the equipment.

- Maintain good housekeeping at all times while cleaning equipment.

- When dealing with heat and hot water from the ste am cleaner, be careful 44 be cautious.

- Other items of concern are slipping due to water on plastic, the hazards of lifting heavy equipment (REMEMBER -- "LIFT WITH YOUR LEGS AND NOT YOUR BACK"), and sharp edges on augers and other boring equipment.

Well Construction

When you're constructing wells, you should always make sure that:

- Wastewater, drilling fluids and soil cuttings are properly contained and labeled if required. The site4specific health and safety plan specifications should be followed if applicable.

Safety and Housekeeping

- The subsurface exploration tools should be organi zed and secure before you move to the next location.

- Gasoline and other flammable materials should be stored in approved containers.

- Gas cylinders should be stored upright and secure ly. When cylinders are not in use, their protective caps should be in place.

- No horseplay will be tolerated on the job site.

Demobilization

The job is over, and it's time to go home. You and the rest of the crew are probably tired and in a hurry to go home. But don't let your hast e get you into trouble! As you know, accidents are more likely to happen when you're tir ed and in a rush. That's why, when the job is done, you should:

- Allow plenty of time to demobilize.

- Review the day's activities and make sure your pa perwork is in order and complete before you leave the job site.

- Secure and clean up the site before you leave.

- Follow Department of Transportation rules and reg ulations when traveling.

REMEMBER:
AT BOWSER-MORNER,
WE ARE COMMITTED TO SAFETY!

SUBSURFACE EXPLORATION EQUIPMENT CHECKLIST

RIG EQUIPMENT NUMBER________________

ITEM	CONDITION		REMARKS
	PASS	FAIL	
Backup Alarms			
Test Kill Switch			
Auger Racks			
Fire Extinguishers			
First Aid Kit			
Leveling Jacks			
Parking Brakes			
Brakes			
Horn			
Cable Safety			
Engine Gauges			
Guards			
Clutch			
Lights/Turn Signals			
Hydraulic Systems			
Muffler/Exhaust			
Ropes			
Mirrors			
Seat Belts			

SUBSURFACE EXPLORATION EQUIPMENT CHECKLIST

(CONTINUED)

RIG EQUIPMENT NUMBER________________

ITEM	CONDITION		REMARKS
	PASS	FAIL	
Tires and Tracks			
Fuel Fluid Systems			
Platform Stability			
Cable/Cable Clamps			
PPE			
Safety Harness			
Respirators			
Safety Hammer			

21.0 DECONTAMINATION

Decontamination procedures should be strictly adher ed to prevent possible cross4 contamination from affected areas on4site to other areas of the site, as well as from areas on4site to off4site areas. For the same reason, vehicles w ill be restricted from entering the Temporary Exclusion Zone unless authorized by the Site Engineer.

Any worker involved in decontamination procedures i s to wear disposable suits, gloves, and boots as well as a respirator.

Equipment

Upon mobilization to the site, following boring, ex cavation, and backfilling activities at the site and before demobilization from the site, all e quipment is to be decontaminated at the decontamination facility on the site. Continuous 1 04mil polyethylene sheeting is to be secured over the decontamination facility to control dust and water particulates.

Equipment decontamination is to consist of degreasi ng (as required) followed by high4 pressure, low4volume, hot water cleaning, or hand washing along with non4phosphate detergents (for example, Alconox) as appropriate. The steam4cleaning process should be capable of heating and maintaining wash waters to a minimum of 180 deg rees Fahrenheit with a nozzle pressure of 150 pounds per square inch (psi).

Bore stem equipment used in the boring operations is to be decontaminated in wash tubs on the decontamination pad to collect wash water and sediment.

Using a sump pump, decontamination waters from the decontamination facility are to be transferred to specific drums. Soil sediments remo ved from equipment during decontamination are to be periodically collected and placed in spec ified drums. All drums are to be stored in locations on4site as approved by the site engineer. After equipment has been decontaminated in preparation to demobilize from the site, the site e ngineer must inspect and approve decontamination as being complete.

I have read the above and I understand all the items presented.

Date: ________________________ Signature ________________________________

Mark Twain said it best: "It's better to be careful a hundred times then to get killed once."

APPENDIX D

QUALITY ASSURANCE PROJECT PLAN

BOWSER MORNER®

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QUALITY ASSURANCE PROJECT PLAN FOR
Valley Asphalt, 1901 Dryden Road, Moraine, Ohio
Prepared by Bowser-Morner, Inc.

A. PROJECT MANAGEMENT ELEMENTS

A.I TITLE AND APPROVAL SHEET

Valley Asphalt, 1901 Dryden Road, Moraine, Ohio
Quality Assurance Project Plan
Prepared by Bowser-Morner, Inc.

VALLEY ASPHALT APPROVALS

Dan Crago, Date
Environmental Manager, Valley Asphalt

USEPA APPROVALS

Steve Renninger, Region 5 Date
On-Scene Coordinator
Superfund Division

A.2 DISTRIBUTION LIST

Leslie Patterson, U.S. Environmental Protection Agency, Remedial Project Manager

Laura Marshall, Ohio Environmental Protection Agency (OEPA), Project Coordinator

A.3 PROJECT/TASK ORGANIZATION

The following list identifies key individuals and organizations participating in this project, and discusses their specific roles and responsibilities as they pertain to this Quality Assurance Project Plan (QAPP).

On-Site Coordinator – Steven Renninger, USEPA

Responsibilities: Manages the Removal Program under USEPAs Superfund Program. Manages the overall Removal Project. Reviews and approves the QAPPs for this project.

Project Coordinator – Katherine H. Beach, R.E.M., Bowser-Morner, Inc.

Responsibilities: Supervise and schedule field staff conducting sample collection and site assessment activities. Assures that staff are qualified and trained to perform the work, familiar with the required Standard Operating Procedures (SOP), including those related to Quality Assurance/Quality Control (QA/QC), and have the equipment necessary to perform the work. Reviews reports generated by staff for completeness, clarity and accuracy. Prepare formal reports for Valley Asphalt and USEPA staff review and approval.

Project Manager – Dan Crago, Environmental Manager, Valley Asphalt

Responsibilities: Oversight of site-specific activities as they relate to this QAPP, including correspondence, communication and scheduling. Review and approve plans, reports, and data to ensure that site-specific activities conducted pursuant to this QAPP meet project-specific Data Quality Objectives (DQOs).

Project Field Supervisor – Jeff Arp, Senior Hydrogeologist, Bowser-Morner, Inc.

Responsibilities: Prepare and/or implement site-specific sampling plans to collect environmental samples according to established SOPs at Site. Conduct sample collection by appropriate methods to provide data of sufficient quality. Prepare and/or implement health and safety plans for investigations conducted by Bowser-Morner at potential and/or confirmed hazardous substance sites. May prepare formal reports of sampling investigations for USEPA staff to evaluate.

QA/QC Manager – Mark Bingman, Bowser-Morner, Inc.

Responsibilities: Reviews site-specific QAPPs and other documents as needed to ensure quality data. Performs field audits of staff who conduct sampling activities in order to verify that staff are following the SOPs for environmental data collection. Prepares audit reports summarizing procedures used and makes recommendations for improvement, if necessary.

A.4 PROBLEM DEFINITION/BACKGROUND

The USEPA Vapor Intrusion Program, administered by the USEPA, Emergency Response Program, provides parties with technical assistance and oversight for the investigation and cleanup of properties contaminated with hazardous substances. The goal of this project is to eliminate the imminent hazard to human health (volatile organic compound vapor intrusion and methane vapor) generated by the completed pathways into three buildings on the Valley Asphalt property.

In accordance with a Unilateral Administrative Order issued by the U.S. Environmental Protection Agency (EPA), Valley Asphalt must include a Quality Assurance Program Plan in a Work Plan. This QAPP will be reviewed by the USEPA; modifications, if necessary, will be made by Valley Asphalt within 10 business days. The environmental data generated during implementation of the Work Plan must include appropriate quality management tools. A Quality Ma nagement Plan (QMP) is being developed concurrently with this QAPP and covers mo nitoring and measurement activities that generate and process environmental data this Site as it complies with the UAO.

A.5 PROJECT/TASK DESCRIPTION

The Valley Site entered the USEPA Vapor Intrusion M itigation Program when the UAO became effective (April 16, 2013). Valley will complete all work required in the UAO; Work Plan, Work Plan elements, removal act ion plans and a final report are/will be submitted to the USEPA for review and a pproval. When the USEPA is satisfied that the removal activities have met the objectives of the UAO, the USEPA will provide Valley with a Certification of Completion o r "No Further Action Letter" signed by the Director of the Hazardous Waste Program. Va lley will pay for the USEPA's oversight costs, which are calculated on an hourly basis. Participation in the program is not voluntary and Valley may not withdraw at any time.

Activities that may be conducted under this QAPP an d with the oversight of the USEPA include site characterization and removal act ions. These activities will be documented through work plans and final reports, al l submitted to the USEPA for review and approval. The following include the necessary components for work plans to conduct environmental data collection submitted for USEPA approval and the necessary QA/QC documentation to be submitted after data collection.

A.5.1 WORK PLANS FOR SITE CHARACTERIZATION

Bowser-Morner will submit the written site-specific work plan to USEPA for review and approval prior to implementation. The w ork plan will a health and safety (HASP) plan, signature page and reference to this g eneric QAPP. The work plan will provide general site information, describe the numb er, type, and location of samples to be collected (included on a site sketch) as well as an alytical parameters and methods requested for each sample.

A.5.2 CHARACTERIZATION REPORTS

Bowser-Morner will submit the written site-specific characterization report to the USEPA upon completion of site characterization activities. These reports will include field QA/QC documentation requirements and laboratory QA/QC documentation requirements as described in Section A.8 Documents and Records.

A.5.3 MITIGATION PLAN

Since the Mitigation Plan involves environmental data collection such as further site characterization, confirmatory samples following removal activities, and monitoring, then the Mitigation Plan shall be subject to this QAPP. Bowser-Morner will submit the written site-specific Mitigation Plan to USEPA for review and approval prior to implementation. These plans will include a sampling and analysis plan, a field sampling plan, documentation of the health and safety plan, signature page and reference to this generic QAPP. The plan will provide general site information, describe the number, type, and location of samples to be collected (included on a site sketch) as well as analytical parameters requested for each sample. If the RAP/RMP does not involve environmental sampling, then data QA/QC would not be a component.

A.5.4 MITIGATION REPORTS

Since the Mitigation Plan involves environmental sampling, Bowser-Morner will submit to the USEPA a written site-specific report that includes field QA/QC documentation requirements and laboratory QA/QC documentation requirements as described in Section A.8 Documents and Records.

A.5.5 MODIFICATIONS TO THE WORK PLAN

USEPA will have the final approval of all individual components of the written work plan revised as specified herein and reserves the right to require modifications, deletions, and or additional elaboration to the written work plans and reports as USEPA deems necessary.

A.5.5.1 USEPA REQUESTED CHANGES

If USEPA determines that modifications to the written work plan are necessary or desired, the agency will document the requested changes to Bowser-Morner in writing. Such changes may include the need for additional sampling at the site. Based on the written instructions provided by USEPA, Bowser-Morner will revise the written work plan.

A.5.5.2 BOWSER-MORNER REQUESTED CHANGES

If Bowser-Morner determines that modifications to the written work plan are necessary, Bowser-Morner will submit a written request to USEPA for changes. The written request will include the reason for the modification and will detail Bowser-Morner's proposed changes to the written work plan. USEPA will review the written request of Bowser-Morner and send written notice of approval or disapproval of the request to Bowser-Morner.

A.5.5.3 FIELD DEVIATIONS FROM THE WORK PLAN

Changes in site conditions between the time of the site reconnaissance and the on-site removal activities and/or the visual appearance of the substance at the time of sampling may determine the actual number and locations of samples collected. The deviations or changes will be documented in the final report prepared by Bowser-Morner and submitted to the USEPA.

A.6 DATA QUALITY OBJECTIVES AND CRITERIA

Data Quality Objectives are qualitative and quantitative statements that specify the purpose, quality, and/or quantity of the environmental data required to support management and removal decisions at the site. DQOs are predicated in accordance with the anticipated end uses of the data that is to be collected. Data collected typically will be used to meet the following DQOs:

- Determine if there is an immediate threat to public health or the environment.

- Locate and identify potential sources of contamination.
- Characterize the extent of impact from contamination.
- Determine if there is a long-term risk from exposure to the site.
- Determine potential remediation and long-term stewardship strategies (if necessary).

When analyzing environmental samples, all measurements will be made so that results are reflective of the medium and conditions being measured. The level of detail and data quality needed will vary with the intended use of the data. DQOs typically are assessed by evaluating the precision, accuracy, representativeness, completeness, and comparability of all aspects of the data collection process, defined as follows:

- Precision: a measure of the reproducibility of analytical results.
- Accuracy: a measure of the bias that exists in a measurement system.
- Representativeness: degree that sampling data accurately and precisely depicts selected characteristics such as parameter variations at a sampling point or an environmental condition.
- Completeness: measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under "normal" conditions.
- Comparability: degree of confidence with which one data set can be compared to another. To assess if environmental measurements are of an appropriate quality, the general requirements above will be examined and compared to agency-recommended parameters when available. Calculation of precision and accuracy will be specified in the site specific work plan. Samples will be collected in a manner so they are representative of both the chemical composition and physical state of the sample at the time of sampling. To ensure comparability, all data will be reported as ^{o}Celsius (flash point), pH units, µg/l or mg/l for water, liquids, µg/kg or mg/kg for soil, sediment or other solids, and mg/m^{3} and/or ppbv for air. Comparability is further addressed by using appropriate field and laboratory methods that are consistent with current standards of practice as approved by EPA.

A.7 SPECIAL TRAINING/CERTIFICATION

Sample collectors have successfully complete a 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) site safety course in accordance with 40 CFR Part 311, which references 29 CFR 1910.120. Sample collectors have successfully completed annual 8-hour HAZWOPER refresher courses; certificates are available upon request. Staff are also trained on sampling for hazardous materials, to read and be familiar with applicable SOPs, the generic QAPP, the site-specific work plan(s) prior to performing actual sample collection.

Specific training requirements may be necessary for personnel operating field analytical or sampling equipment or specialized equipment. Manufacturer's requirements and recommendations will be followed.

Bowser-Morner will ensure and provide for the protection of the personal safety and health of all its workers on site, including the selection, provision, testing, decontamination, and disposal of all Personal Protective Equipment (PPE) and any required medical monitoring. Bowser-Morner will comply with all applicable worker safety and health laws and regulations. At all times during performance of services, Bowser-Morner will exercise reasonable professional judgment regarding safety and will use professional judgment as a criterion for cessation of services for safety reasons.

A.8 DOCUMENTS AND RECORDS

Documentation procedures will be conducted in accordance with EPA's record keeping requirements. Work plans and final reports will be generated and submitted to USEPA for review and approval. Field QA/QC documentation for site characterization reports and/or removal action/risk management reports must consider the following details:

- Calibration and maintenance records for field instrumentation,
- Documentation of sample collection procedures,

- Reporting of any variances made in the field to sampling plans, SOPs or other applicable guidance documents,
- Reporting of all field analysis results,
- Documentation of sample custody (provide copies of chain-of-custody documents),
- Documentation of sample preservation, handling and transportation procedures,
- Documentation of field decontamination procedures (and if applicable, collection and analysis of equipment rinsate blanks),
- Collection and analysis of all required duplicate, replicate, background and trip blank samples, and
- Documentation of disposal of investigation-derived wastes.

Laboratory QA/QC documentation for site characterization reports and/or removal action/risk management reports must consider the following details:

- If the published analytical method used specifies QA/QC requirements within the method, those requirements must be met and the QA/QC data reported with the sample results;
- At a minimum, QA/QC samples must consist of the following items (where applicable): method/instrument blank, extraction/digestion blank, initial calibration information, initial calibration verification, continuing calibration verification, laboratory fortified blanks/laboratory control samples, duplicate, and matrix spikes/matrix spike duplicates;
- Documentation of appropriate instrument performance data such as internal standard and surrogate recovery.

B: DATA GENERATION AND ACQUISITION

B.1 SAMPLING PROCESS DESIGN

This QAPP is generic, covering many different projects and a large number of analytes in various complex sample matrices. The sampling design will vary depending on the goal of the sampling activity, such as site characterization or confirmatory sampling. Therefore, the sampling process design will be described in detail in the site-specific work plan. Some considerations when developing a plan for a sampling design, particularly a judgmental sampling design, include potential contaminant(s) and locations based on past property uses, soil properties that affect contaminant migration, physical and chemical nature of potential contaminant(s), the manner in which contaminant(s) may have been released, and timing, duration and amount of potential release(s).

All QC samples will be collected in accordance with EPA guidance and described in the site-specific work plan. All QC samples will be documented in the sampling report. See Section B.5 for more information on QC samples.

B.2 SAMPLING METHODS

The field investigations and sample collection activities under the project will adhere to applicable SOPs and available EPA guidance and will be described in the site-specific work plan. The site-specific work plan will indicate the location, type, number and media of the samples. Manufacturer's specifications and operational instructions, other agency SOPs, other methods, instructions, including professional or scientific technical standards, may also be used for specific field analytical equipment, geophysical equipment, surveying instruments, etc. with no existing SOPs or EPA guidance upon approval of the USEPA Project Manager. The site-specific work plan will specify sampling methodologies and procedures used.

B.3 SAMPLE HANDLING AND CUSTODY

Sample handling and custody will be accomplished according to SOPs and using standard forms developed by Valley's selected laboratory. Sample container selection will be according to appropriate method guidance and/or SOPs. The site-specific work plan will specify sample handling procedures, sample containers, preservation, holding times, chain-of-custody and field documentation, handling of samples in the field, and transport of samples to the laboratory. All analyses will be conducted within the EPA-specified maximum sample holding time limits. Any data obtained from analyses conducted on samples after the specified holding time limit will be qualified by the laboratory in sample result documentation and discussed in the sampling report.

B.4 ANALYTICAL METHODS

Field analytical measurements will be according to SOPs and manufacturer's operational instructions, such as immunoassay kit instructions, photoionization detector (PID) instructions, XRF manual, etc. Calibration and other QA/QC actions will be accomplished according to SOPs, manufacturer's minimum recommendations/ requirements and other appropriate scientific or technical standards. Appropriate EPA guidance, SOPs, best professional judgment and accepted industry and scientific practices will be used when correlating field analytical data to definitive data. Laboratory measurements will be performed by the selected laboratory according to the method requested, generally according to EPA Solid Waste Methods SW-846 specified container, preparation and analytical methods. The QC procedures specified in these methods must be followed. The detection limits of the selected analytical methods generally will be able to achieve the concentrations of interest needed. Analytical parameters will vary by project; therefore, the analytical methods used for the parameters of concern will be specified in the site-specific work plan.

All QC documentation must be provided with each analytical deliverable package Bowser-Morner will be responsible for ensuring all analytical data provided by Valley Asphalt's selected laboratory for the project meets the contract requirements and the requirements of this QAPP.

B.5 QUALITY CONTROL

QC samples will be required to verify the validity of analytical results and to assess whether the samples were contaminated from sources not directly attributable to releases at the site (such as improper decontamination, cross-contamination, laboratory contamination, etc.). Field QC samples may include trip blanks, field blanks, equipment blanks/rinsate samples, replicates/field duplicates as appropriate. The field QC samples proposed for collection will be included in the site-specific work plan. Trip blanks indicate if any activities after obtaining the trip blank may have contaminated samples during transport. Field blanks are samples obtained in the field to determine if contaminants were introduced by sample containers, preservatives, sampling procedures, etc. Replicate samples may be obtained to assess the reproducibility of the sampling procedures, data obtained and the analytical methods. Rinsate samples are obtained to verify adequate decontamination of sampling equipment. For all projects involving the collection of aqueous samples, a trip blank will be included at a frequency of one per separate sampling event (mobilization). An equipment rinsate blank will be collected for projects where the sampling equipment is decontaminated in the field for reuse. The equipment rinsate blank will be collected at a frequency of one per separate sampling event (mobilization) for each different combination of sampling equipment, decontamination method, and analytical parameter.

Contaminants will not be detected above the laboratory reporting level in trip blanks, field blanks, and equipment rinse blanks. Any data that do not meet these accuracy criteria will be qualified on sample results. The USEPA Project Manager and Bowser-Morner personnel will evaluate all qualified data on a project-specific basis, and determine how/whether to use the data.

Total precision of the entire sampling and analytical process will be assessed using analyses of blind field duplicate and replicate split samples. Aqueous precision QC samples will be collected as duplicates, while non- aqueous precision QC samples will be sampled as replicate splits.

At least one set of precision QC samples for each media of interest in this project (which may include any of the following: groundwater, surface water, soil/sediment, air) will be collected per site. All QC samples will be documented in the sampling report, and will be collected at a frequency in accordance with applicable SOPs.

Laboratory QC samples include duplicates, spikes, laboratory blanks, and performance evaluation samples, and are performed by the fixed laboratory according to the approved laboratory QA/QC plans.

B.6 INSTRUMENT/EQUIPMENT TESTING, INSPECTION AND MAINTENANCE

Field analytical instruments used during this project will be maintained and calibrated according to instructions provided by the instrument manufacturer, and other appropriate scientific and technical guidance and standards pertinent to the specific instrument in use. Bowser-Morner will be responsible for performing operational checks on all equipment prior to use in the field. An operational problem with any field instrumentation will be noted by Bowser-Morner in the field notebook. Daily or regular calibration of field instrumentation will be according to applicable SOPs and manufacturer's instructions and indicated or referenced in the site-specific work plan. Fixed laboratory equipment for contract laboratories used for quantitative sample analysis will be tested, inspected, calibrated and maintained according to the specific analytical equipment requirements as stated in the SOPs of the laboratory, in accordance with manufacturer-specified procedures or method-specified procedures, as appropriate.

B.7 INSTRUMENT/EQUIPMENT CALLIBRATION AND FREQUENCY

Maintenance and calibration procedures will be conducted in accordance with manufacturers' instrument manuals, method-specified procedures and the laboratory SOPs, as appropriate.

B.8 INSPECTION/ACCEPTANCE OF SUPPLIES AND CONSUMABLES

Inspection and acceptance of supplies and consumables will be conducted according to applicable SOPs. Any supplies and consumables used in the sample collection process or instrument calibration such as sample bottles, bailers, dedicated tubing, deionized water, calibration gases, etc., will be inspected upon receipt and prior to use.

B.9 NON-DIRECT MEASUREMENTS

Several types of data and information may be obtained from non-measurement sources for use in projects conducted under this QAPP. The primary types of non-measurement data are Phase I Environmental Site Assessments, site reconnaissance, interviews of site owners or operators, published reference books and resources, databases, and internet resources. These data may be used to design sampling plans and may be used with the directly measured data collected during each project to evaluate the potential need for further site characterization, remediation and/or suitability for development. Non-direct measurement data will be documented and referenced in any document for which they are used.

B.10 DATA MANAGEMENT

Data management, including chain-of-custody review and correction, data review, reduction and transfer to data management systems, quality control charts, quality control procedures, and sample receipt, storage and disposal, will be in accordance with applicable SOPs and accepted industry practices.

Documentation will be in accordance with applicable SOPs and accepted industry practices, and will include the sampling reports, copy of the chain-of-custody, and field QA controls with the analytical results. All sample documents will be legibly written in ink. Any corrections or revisions to sample documentation shall be made by lining through the original entry and initialing and dating any changes. Data reduction will occur in accordance with Bowser-Morner analytical SOPs for each parameter. If difficulties are encountered during sample collection or sample analyses, a brief description of the problem will be provided in the sampling report prepared by Bowser-Morner. Data reporting will be in accordance with applicable SOPs and will include, at a minimum:

- Sample documentation (location, date and time of collection and analysis, etc.)
- Chain-of-custody forms
- Initial and continuing calibration

- Determination and documentation of detection limits
- Analyte(s) identification
- Analyte(s) quantitation
- Quality Control sample results
- Duplicate results

Adequate precautions will be taken during the reduction, manipulation, and storage of data in order to prevent the introduction of errors or the loss or misinterpretation of data.

C: ASSESSMENT AND OVERSIGHT

C.1 ASSESSMENTS AND RESPONSE ACTIONS

This section describes the internal and external checks necessary to ensure that all elements of the QAPP are implemented correctly as prescribed, that the quality of the data generated by implementation of the QAPP is adequate, and that any necessary corrective actions are implemented in a timely manner.

C.1.1 LABORATORY PERFORMANCE ASSESSMENT

Laboratories will comply with all of the EPA and the National Environmental Laboratory Accreditation Conference (NELAC) requirements for laboratory QA programs. Data resulting from the participation in this program shall be reviewed by the laboratory Quality Assurance Manager and any problems shall be addressed.

C.1.2 FIELD PERFORMANCE ASSESSMENT

The auditor in charge of field QA will conduct audits of field activities according to Bowser-Morner QA field auditing procedures. The process of choosing when field audits are conducted is not based on a particular project or site-sampling event, but rather on assuring that each person involved in sample collection is audited at least once per year. Bowser-Morner's field QA auditor will have the responsibility for initiating and implementing response actions associated with findings identified during the field audit. The field personnel shall properly address any response actions needed.

C.1.3 OVERALL QAPP ASSESSMENT

EPA conducts periodic evaluations of the state's environmental programs. These evaluations normally include some type of review of the program's quality management system, and may include examination of QAPPs.

C.1.4 DATA VALIDATION

All field and laboratory data will be subject to validation to review for accuracy, precision, completeness, representativeness and comparability. Data validation is discussed in more detail in Section D. The acceptance criteria for measurement data are discussed in Section A.6.

C.2 REPORTS TO MANAGEMENT

Data from Valley Asphalt's selected laboratory will be submitted to the USEPA Project Manager as an appendix to the final report using the laboratory analytical report sheets. The report sheets will include documentation of the sampling location, sample description, date of collection, collector, analysis performed and results, date of analysis, and analytical method used. A copy of the chain-of-custody and the lab results will also be attached to the final report. In addition, an explanation of any deficiencies in data quality will be provided with the sampling report.

Field performance assessment audits will be documented by Bowser-Morner's field QA auditor in a written report that will be kept on file at Bowser-Morner's office. Results from the laboratory's audit studies will be kept on file at Bowser-Morner's office.

Comments and recommendations from the appropriate EPA Region periodic evaluations of state environmental programs are provided to the DEQ QA manager and used by DEQ management and staff to take any corrective actions which may be.

D: DATA VALIDATION AND USABILITY

D.1 DATA REVIEW, VERIFICATION AND VALIDATION

To ensure that measurement data generated when performing environmental sampling activities are of an appropriate quality, all data will be validated. Data validation is a systematic procedure for reviewing a body of data against a set of established criteria to provide a specified level of assurance of its validity prior to its intended use. The techniques used must be applied to the body of the data in a systematic and uniform manner. The process of data validation must be close to the origin of the data, independent of the data production, and objective in its approach. All data, as applicable, will be validated in accordance with EPA guidance, per Data Quality Objectives Process. Any deviations will be documented and provided with the analytical data report.

D.2 VERIFICATION AND VALIDATION METHODS

D.2.1 DOCUMENTATION, DATA REDUCTION AND REPORTING

Documentation will include the sampling reports, copy of the chain-of-custody, and field QA controls with the analytical results. Data reduction will occur in accordance with the laboratory's analytical SOPs for each parameter. If difficulties are encountered during sample analyses, a brief description of the problem will be provided.

Data derived from sampling events undertaken for projects under the oversight of the USEPA will be reported to the USEPA Project Manager as discussed in Section C.2. Reports to Management.

D.2.2 DATA VALIDATION

Data validation will occur as described in the analytical SOPs for each parameter and the laboratory SOPs for data review. Data validation is accomplished using control charts and data review checklists. Discrepancies are noted in the analytical file and appropriate data flags are used. If data is determined to be outside of control limits, the data is flagged on the report of analysis. The laboratory personnel will look at matrix spikes/matrix spike duplicates, lab blanks, and lab duplicates to ensure they are acceptable. The sample collector will compare the sample descriptions with the field sheets for consistency and ensure that any anomalies in the data are documented. Bowser-Morner will perform a final review and approval to ensure that the data meets the quality objectives of this QAPP. Bowser-Morner's review and approval is a check on the reviews conducted by the laboratory to ensure consistency of all field and analytical data that is generated by Bowser-Morner.

D.3 RECONCILIATION WITH USER REQUIREMENTS

Once the final report is submitted, the USEPA Project Manager will review the field duplicates to determine if they appear to indicate a problem with meeting quality objectives. If problems are indicated, the USEPA Project Manager will contact Bowser-Morner to discuss and attempt to reconcile the issue. Completeness will also be evaluated to determine if the completeness goal for this project has been met. If data quality indicators do not meet the project's requirements as outlined in this QAPP, the data may be discarded and re-sampling may occur. The USEPA Project Manager will determine the cause of the failure (if possible) and make the decision to discard the data and re-sample. If the failure is tied to the analyses, calibration and maintenance techniques will be reassessed as identified by the appropriate lab personnel. If the failure is associated with the sample collection and re-sampling is needed, the sampling methods and procedures will be reassessed as identified by the field audit process. Corrective action will be undertaken by all parties to address specific problems as they arise. Corrective actions required will be identified through the use of control charts for chemical analyses, precision and accuracy data, through performance auditing, and through systems audits.

REFERENCES

- EPA Guidance for Representative Sampling, OSWER Directives 9360.4-10 and 9360.4-16, December 1995.
- EPA Guidance for Quality Assurance Project Plans, EPA/600/R-98/018, February 1998.
- EPA Guidance for Data Quality Assessment, EPA/600/R-96/084, January 1998.
- EPA Guidance for Data Quality Objectives Process, EPA/600/R-96/055, September 1994.

APPENDIX A: LISTING OF ACRONYMS & TERMS

USEPA Brownfields/Voluntary Cleanup Program
CERCLA- Comprehensive Environmental Response, Compensation and Liability Act
DQO- Data Quality Objectives
EPA- United States Environmental Protection Agency
HAZWOPER- Hazardous Waste Operations and Emergency Response
MCL- Maximum Contaminant Level
NELAC- National Environmental Laboratory Accreditation Conference
QA- Quality Assurance
QAPP- Quality Assurance Project Plan
QC- Quality Control
SOP- Standard Operating Procedure
SVOC- Semi-Volatile Organic Compound
VOA- Volatile Organic Analysis
VOC- Volatile Organic Compound

Duplicate or co-located sample is a sample obtained from the same location, at the same time, and of the same material as the original sample. Duplicate water samples are used primarily to assess precision associated with sampling methodology, and to a lesser extent sample heterogeneity and analytical procedures. Duplicate soil samples are used primarily to determine the variability or heterogeneity of the sampled media. Due to the heterogeneity of soils, caution must be used if attempting to assess precision associated with sampling methodology or analytical procedures.

Hazardous Substance means a substance defined as hazardous pursuant to federal rule 40 CFR 302.4, which includes asbestos and Polychlorinated Biphenyls (PCBs); any substance designated pursuant to Section 311(b)(2)(A) of the federal Water Pollution Control Act; any toxic pollutant listed under Section 307(a) of the federal Water Pollution Control Act; any hazardous air pollutant listed under Section 112 of the Clean Air Act; any imminently hazardous chemical substance or mixture with respect to which the Administration of EPA has taken action pursuant to Section 7 of the Toxic Substances Control Act; any hazardous waste; any hazardous material designated by the Secretary of the U.S. Department of Transportation under the Hazardous Materials Transportation Act; any radioactive materials; or any petroleum product.

Hazardous waste means waste defined to be hazardous pursuant to federal rule 40 CFR 261.
Replicate split sample is obtained by dividing or splitting one sample that has been mixed or homogenized into two samples for separate analysis. A replicate split is collected primarily to assess precision associated with analytical procedures and to a lesser extent sample handling procedures. Replicate split samples of soils or other nonaqueous materials are not recommended if volatile organics analyses are requested due to the potential loss of the volatiles during the mixing process. Duplicate samples for volatile organics analyses are sometimes collected prior to mixing, however, there may

be a greater potential for inconsistency due to the heterogeneous nature of soils or other non-aqueous media.

APPENDIX B: ANALYTICAL REQUIREMENTS

The detection limits, as specified in 40 CFR 136 Ap pendix A and the EPA SW-846 Methods, are sufficient for most project under the oversight of the USEPA. The accuracy and precision of each analytical method are determi ned by using spikes and spike duplicate analyses, as specified in the EPA SW-846 methods.

APPENDIX E

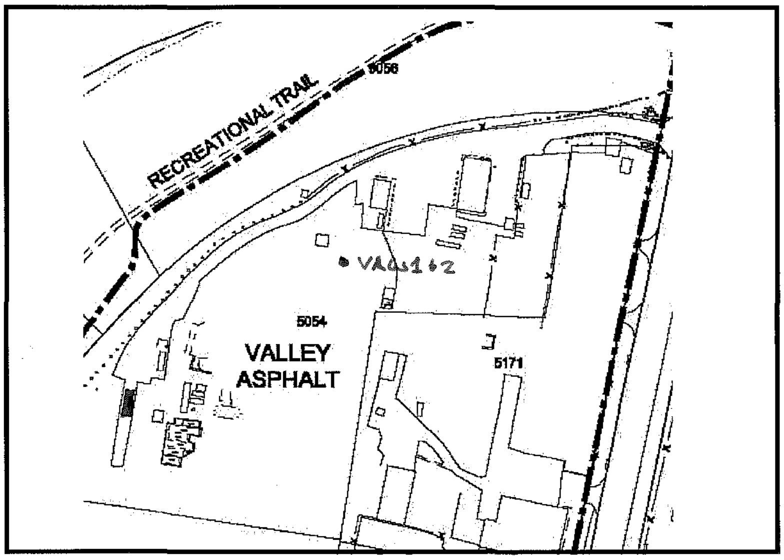
COMPLETED BUILDING PHYSICAL SURVEYS FOR BUILDINGS REQUIRING MITIGATION

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONNAIRE

Date: June 22, 2011 Time: 1410 Inspector: Adam Loney, CRA

Address: 1901 Dryden Road

Site Layout: Parcel Number: 5054 Building: 4



Building Owner: Jim Jurgensen II

Occupant Name: Valley Asphalt Plant No. 6

Contact Name: Dan Crajo, Bill Hurst

Phone Number: 937-479-9568

Time resident/employed in home/building? pre-1993

Occupation: Hot Mix Asphalt Plant

Number and Age of Occupants Adults: 2

Children: 0

BUILDING TYPE: One-Story ____ Two-Storey ✓ Multi-Storey ____ Brick ✓ (conc. block foundation) Siding ✓ Stucco ____

(Circle One) Residential / Industrial / Commercial / Multi-use / Other (specify) ____

If residential, what type (circle): Single family / Condo / Multi-family / Other (specify) ____

If multiple units, how many? N/A

If commercial, what is the business? control building for asphalt plant Hours of Occupation/Occupancy? ____

Does the commercial property include residences (i.e., multi-use)? Y / N

If yes, how many? ____

DESCRIBE BUILDING: ~~cinder block~~ poured concrete base w/ pre-fab-type office on top **YEAR CONSTRUCTED:** pre-1993

POSSIBLY VISIBLE IN 1988 & 1991 AERIALS
DEFINITELY VISIBLE IN 1993 AERIAL

Is the building insulated? Y/N - office maybe How air tight? Tight / Average / Not Tight

Previous Uses: same as existing

WEATHER SEALS: General Condition: Good ____ Fair ✓ Poor ____ Not Present ____

Are doors/windows kept open to allow for outdoor-to-indoor air exchange? door to basement kept open

BASEMENT/: BOTTOM FLOOR	None	Finished	Unfinished	Depth below reference point (meters)	Floor covering
Partial	☐	☐	☐	~1.5	none
Full	☑	☐	☑		
Crawl space	☐	N/A	N/A		
Slab-on-grade	☐	☐	☐		

Is the basement/~~bottom~~ floor used as a living/work space area? (circle) Y / N

Number of floors at or above grade: 1

Depth of basement below grade: ~4 ft. Basement Size: 160 ft²

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONNAIRE

Foundation construction: Poured concrete ☑ Concrete block ☐ Cinder block ☐ Stone ☐

Foundation walls: Poured ☑ Block ☑ Stone ☐ Other ______

Foundation walls: Unsealed ☑ Sealed ☐ Sealed with ______

Integrity of foundation walls: Good ☑ Fair ☐ Poor ☐

The basement/bottom floor is: Wet ☐ Damp ☐ Dry ☑ Moldy ☐

Any visual evidence of leakage through basement/bottom floor walls or floor Yes ☐ No ☑

Floor Construction: Poured concrete ☑ Wood ☐ Earth ☐ Brick ☐ Other: ______

Floor condition (cracks, drains): good condition

Condition at floor/wall joint (if visible): no visible leaks

Any exterior openings from the basement/bottom floor:

- ☐ Vents
- ☐ Fans
- ☐ Windows
- ☐ Wall openings
- ☒ Utility pipe penetrations
- ☒ Other: man-door

Type of ground cover outside of building: grass / concrete / asphalt / other (specify): ______

Sub-slab vapor/moisture barrier in place? Yes / No / Don't know Type of barrier: ______

RADON SYSTEM: ☐ Yes ☒ No Is the system active or passive? Active / Passive

Do you have a sump?: Yes ☐ No ☒ Where: N/A (*show on figure*)

If yes, sealed ☐ open ☐ NA ☒ If yes, is there water in the sump?: Yes ☐ No ☐ N/A

Have there ever been a fire in the building?: Yes ☐No ☒

If yes, describe its location and extent: N/A

Is there a laundry room located inside the house/building?: Yes ☐ No ☒

If yes, describe its location: N/A

WATER AND SEWAGE

Is this building serviced with municipal water? Yes ☐ No ☒

Water well present?: Yes ☒ No ☐ Don't know ☐ Is well used for drinking water? Yes ☐ No ☐

Well location: VAW1, VAW2 see figure (*show on figure*) What do you use the well for?: washroom, truck washing

Do you have a cistern?: Yes ☐ No ☒ Don't know ☐

If yes, describe its location: N/A

Do you have a septic system?: Yes ☒ No ☒

If yes, describe its location: (septic tank) (*show on figure*)

If yes, describe how septic system is cleaned: pumped as needed

GARAGE: Is there an attached garage? ☐ Yes ☒ No Describe: ______

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONNAIRE

HEATING, VENTILLATION, AND AIR CONDITIONING

Type of heating system(s) used (circle all that apply, note primary)

Hot air circulation	☐	Heat pump	☐	Hot water baseboard	☐
Space heaters	☐	Stream radiation	☐	Radiant floor	☐
Electric baseboard	☒	Wood stove	☐	Outdoor wood boiler	☐

FURNACE: Location: ______

Type:	Gas	☐	Forced air	☐	Wood	☐
	Oil	☐	Hot water	☐	Propane	☐
	Electric	☒	Coal	☐	Other: ______	

Does furnace have outside combustion air vent? ______

Do you have a fireplace? Yes ☐ No ☒ Does fireplace have an outside combustion air vent? Yes ☐ No ☐

Do you use kerosene space heaters? Yes ☐ No ☒

AIR CONDITIONER: None ☐ Central ☐ Window units ☒

(If yes, which rooms and capacities?) control room only

SPILL/CONTAMINANT SOURCE INFORMATION

Visual evidence of spills/releases: none

Type of petroleum/VOC release? N/A

When did the release occur? N/A

What areas of the building have been impacted by the release? N/A

Are there any odors? ☐ Yes ☒ No If yes, describe the odors: N/A

Where are the release-related odors found? N/A

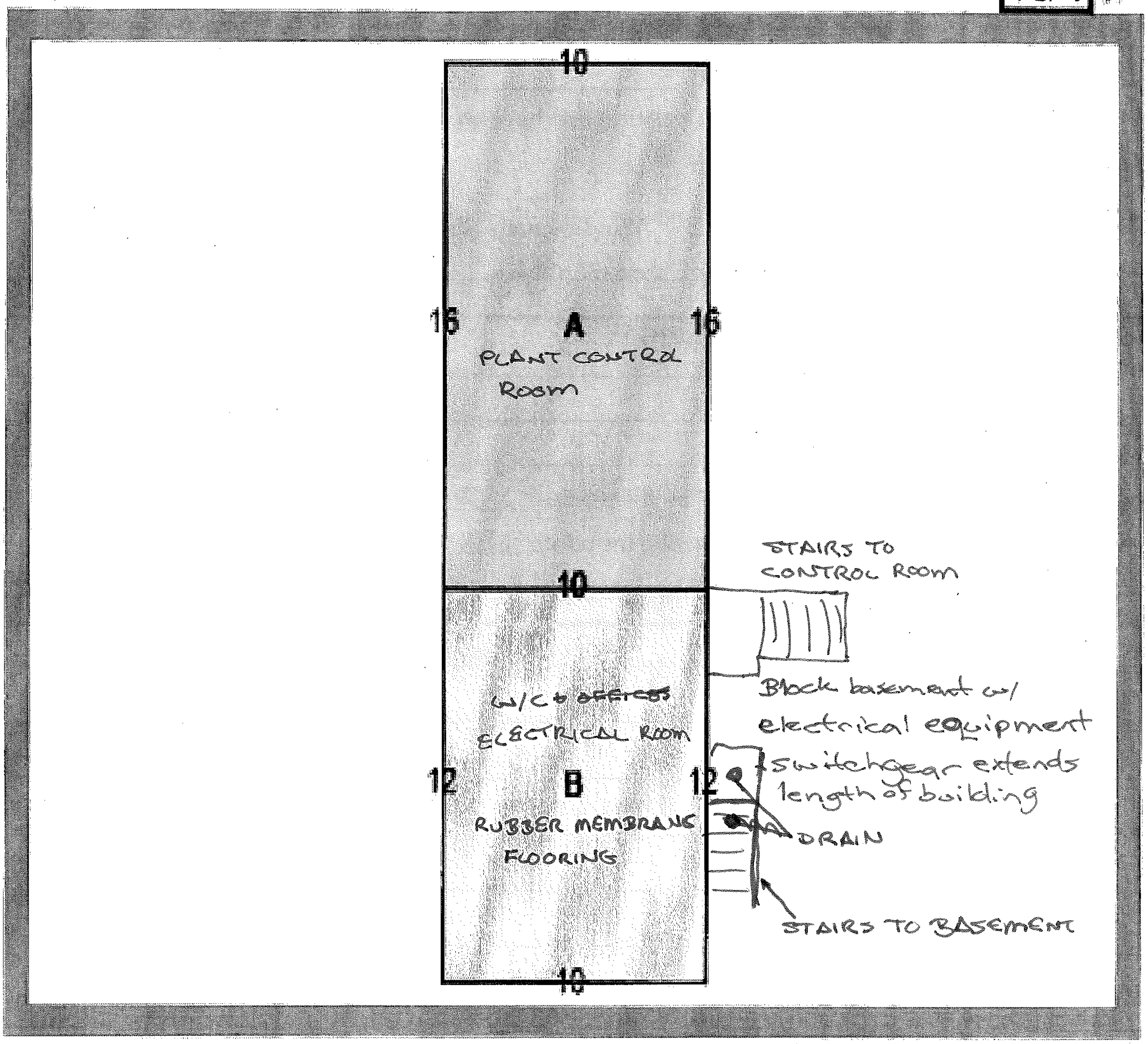
Photo	*Direction*	*Subject*

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONNAIRE

Building Layout:
Parcel Number___5054___; Building __4___
Mark the following on the below Figure: Additions or Modifications; door/windows/loading docks kept open for air exchange; building compartmentalization, including size and locations of compartments

PARID: 144 04102 0040
PARCEL LOCATION: 1901 DRYDEN RD **NBHD CODE: C1302000**

1 of 4



A	SUPPORT AREA, 160 Sq. Ft.	B	MULTI-USE OFFICE, 120 Sq. Ft.

APPENDIX F

MITIGATION SUMMARY DATABASE

BOWSER MORNER®

VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	cc. Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels)		Date Sampled By CRA January, March, August, and September 2012			Mitigation Decision	Comments from Previous Meeting/s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date O&M Manual finalized	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
									Sub-Slab (in ppb)	Indoor Air (in ppb)	Max Methane in Sub-Slab	Max TCE Sub-Slab (in ppb)	Max TCE Indoor Air (in ppb)															
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[redacted]		Demolition	(5/1/13) Demo tentatively to be performed by Valley-associated demo crew. Demo to be fast-tracked with potential limiting factors of asbestos and lead.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of bldg, leave storage/Quonset Hut)	Non-Residential	0.5%	20	2	[redacted]		ND	Mitigation - intrinsically safe SSDS for south portion (storage / Quonset Hut) of building.	(5/1/13) Demo of front/office portion tentatively to be performed by Valley-associated demo crew. Demo to be fast-tracked with potential limiting factors of asbestos and lead.	UPS on 10-23-12; Receipt verified 5/1/12	4/24/13		4/26/13									
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required														
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement	Non-Residential	0.5%	20	2	ND	[redacted]	ND	Mitigation - SSDS	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab	Non-Residential	0.5%	20	2	ND	[redacted]	0.051	Mitigation - SSDS	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
6	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 6	Valley Asphalt Tool trailer with concrete Floor 2 windows remain open (via industrial screen in windows), allowing ventilation	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		No Further Action required - no occupancy	(5/1/13) Floor originally documented to be earthen; floor verified to be concrete slab 5/2/13.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13											
7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and / or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc. & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Unknown ownership. Located on two properties. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		No Further Action required - no occupancy	(5/1/13) Valley does not use this building. Valley attempting to contact party(ies) using building for storage. Eviction notice to be posted no 4/29/13.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13											
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[redacted]				Crawl Space sampling only	0.091	Demolition	(5/1/13) Demo tentatively to be performed by Valley-associated demo crew. Demo to be fast-tracked with potential limiting factors of asbestos and lead.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13											

Notes:
[redacted] 2-May-13

NA = Not Analyzed
ND = Not Detected
ppb = Parts per billion
TCE = Trichloroethylene
PCE = Tetrachloroethene

VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels)		Date Sampled By CRA January, March, August, and September 2012		
									Sub-Slab (in ppb)	Indoor Air (in ppb)	Max Methane in Sub-Slab	Max TCE Sub-Slab (in ppb)	Max TCE Indoor Air (in ppb)
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[redacted]	
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of blgd; leave storage/Quonset Hut)	Non-Residential	0.5%	20	2	[redacted]		ND
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure							
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement	Non-Residential	0.5%	20	2	ND	[redacted]	ND
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab	Non-Residential	0.5%	20	2	ND	[redacted]	0.051
6	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 6	Valley Asphalt Tool trailer with concrete Floor 2 windows remain open (via industrial screen in windows), allowing ventilation	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only	
7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and /or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc. & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Unknown ownership. Located on two properties. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only	
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[redacted]				Crawl Space sampling only	0.091

Number on Map	Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date O&M Manual finalized	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
1	Demolition	(5/16/13) Asbestos and lead surveys completed May 13 and 14, 2013. Data due in 10 business days.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
2	Mitigation - intrinsically safe SSDS for south portion (storage/Quonset Hut) of building.	(5/16/13) Decision to demolish the front (office) portion, keep and therefore mitigate back part.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
3	No Further Action required														
4	Mitigation - SSDS	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
5	Mitigation - SSDS	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13		4/26/13									
6	No Further Action required - no occupancy	(5/9/13) SS vapor sampling was not conducted in this building in previous studies. Valley will install a probe and assess the VOC and methane concentrations.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13											
7	No Further Action required - no occupancy	(5/9/13) Valley has identified owner of building and is waiting on written permission to demolish the building. Asbestos and lead surveys scheduled for 5/13/13 and 5/14/13	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13											
MP	Demolition	(5/9/13) Asbestos and lead surveys to be completed May 13 and 14, 2013.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13											

5/16/2013

Notes:
[redacted]
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ppb = Parts per billion
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VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels) Sub-Slab (in ppb)	TCE Screening Levels (10^{-5} levels) Indoor Air (in ppb)	Date Sampled By CRA January, March, August, and September 2012 Max Methane in Sub-Slab	Date Sampled By CRA January, March, August, and September 2012 Max TCE Sub-Slab (in ppb)	Date Sampled By CRA January, March, August, and September 2012 Max TCE Indoor Air (in ppb)	Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date O&M Manual finalized	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[redacted]	[redacted]	(5/22/13) Demolition (current deadline of 7/31/13 dependant on results of lead and asbestos testing)	(5/30/13) •No ACMs •Waiting on lead data	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	4/26/13	5/21/13 (conditional)								
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of blgd; leave storage/Quonset Hut)	Non-Residential	0.5%	20	2	[redacted]	[redacted]	ND	•Mitigation - intrinsically safe SSDS for south portion (Quonset Hut) of building. •Mitigation system quotes due today (5/30/13) •Demolish north portion (office) part of building by 7/31/13, dependant on ACM, lead sampling results	(5/30/13) •ACMs found in flooring components •Considering encasement •Abestos contractors to visit site week of 6/3/13	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	4/26/13	5/21/13 (conditional)								
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required														
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Vallty Asphalt: Pre-fab split level with unfinished basement	Non-Residential	0.5%	20	2	ND	[redacted]	ND	•Mitigation - SSDS •Mitigation system quotes due today (5/30/13)	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	4/26/13	5/21/13 (conditional)								
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab	Non-Residential	0.5%	20	2	ND	[redacted]	0.051	•Mitigation - SSDS •Mitigation system quotes due today (5/30/13)	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	4/26/13	5/21/13 (conditional)								
6	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 6	Valley Asphalt Tool trailer with concrete Floor 2 windows remain open (via industrial screen in windows), allowing ventilation	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		(5/30/13) Decision made last week to remove this building.	(5/30/13) Considering moving building shell to non-slab location	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	4/26/13	5/21/13 (conditional)								
7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and/or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Unknown ownership. Located on two properties. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		(5/22/13) Demolition (current deadline of 7/31/13 dependant on results of lead and asbestos testing and removal of contents by owner)	•(5/30/13) ACMs in wallboard joint compound •Asbestos contractors site visit scheduled for week of 6/3/13	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	4/26/13	5/21/13 (conditional)								
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[redacted]	[redacted]	[redacted]	[redacted]	Crawl Space sampling only	0.091	(5/22/13) Demolition (current deadline of 7/31/13 dependant on results of lead and asbestos testing)	(5/30/13) No ACMs. Waiting on lead data.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	4/26/13	5/21/13 (conditional)								

5/22/2013

Notes:
[redacted]
NA = Not Analyzed
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ppb = Parts per billion
TCE = Trichloroethylene
PCE = Tetrachloroethene

VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels)		Date Sampled By CRA January, March, August, and September 2012			Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date O&M Manual finalized	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
									Sub-Slab (in ppb)	Indoor Air (in ppb)	Max Methane in Sub-Slab	Max TCE Sub-Slab (in ppb)	Max TCE Indoor Air (in ppb)															
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[redacted]		(6/4/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(5/30/13) •No ACMs •Waiting on Lead Survey results	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A										
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of blgd; leave storage / Quonset Hut)	Non-Residential	0.5%	20	2	[redacted]		ND	•Mitigation - intrinsically safe SSDS for south portion (Quonset Hut) of building. •Mitigation system quotes received 5/30/13 •Demolish north portion (office) part of building by 7/31/13, dependant on asbestos abatement schedule	(5/30/13) •ACMs found in flooring components •Considering encasement •Abestos contractors to visit site week of 6/3/13 • Waiting on Lead Survey results	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13										
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required														
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement	Non-Residential	0.5%	20	2	ND	[redacted]	ND	•Mitigation - SSDS • Mitigation system quotes received 5/30/13	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13										
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab	Non-Residential	0.5%	20	2	ND	[redacted]	0.051	•Mitigation - SSDS •Mitigation system quotes received 5/30/13	(5/1/13) Valley considering installation of intrisically-safe SSDS for all buildings (2, 4 and 5). If cost is not reasonable, initial SSDS will be designed to easily modify to instrinsically-safe if future monitoring indicates the need	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13										
6	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road	Dan Crago Valley Asphalt Corporation	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd.	5054 Building 6	Valley Asphalt Tool trailer with	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - (IA) Methane monitoring only		No Further Action required														
7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and / or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc. & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Unknown ownership. Located on two properties. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		(5/22/13) Demolition (current deadline of 7/31/13 dependant on results of lead and asbestos testing and removal of contents by owner)	•(5/30/13) ACMs in wallboard joint compound •Asbestos contractors site visit scheduled for week of 6/3/13 • Waiting on Lead Survey results	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A										
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[redacted]				Crawl Space sampling only	0.091	(6/4/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(5/30/13) No ACMs. • Waiting on Lead Survey results	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A										

5/30/2013

Notes:

[redacted]

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VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels)		Date Sampled By CRA January, March, August, and September 2012			Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date O & M Manual finalized	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
									Sub-Slab (in ppb)	Indoor Air (in ppb)	Max Methane in Sub-Slab	Max TCE Sub-Slab (in ppb)	Max TCE Indoor Air (in ppb)															
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[redacted]	[redacted]	(6/6/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(6/6/13) •No ACMs •No Lead Paint	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A										
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of blgd: leave storage / Quonset Hut)	Non-Residential	0.5%	20	2	[redacted]	[redacted]	ND	•Mitigation - intrinsically safe SSDS for south portion (Quonset Hut) of building •(6/6/13) Environmental Doctor selected to install mitigation system. •1 extraction point/fan; 2 monitoring points (SS probes) •Demolish north portion (office) part of building by 7/31/13, dependant on asbestos/lead abatement schedule	(6/6/13) •ACMs found in flooring components •Abestos contractors on-site 6/3/13; quotes due 6/12/13 • Lead Paint on exterior door	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13										
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required														
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement	Non-Residential	0.5%	20	2	ND	[redacted]	ND	•Mitigation - SSDS •(6/6/13) Environmental Doctor selected to install mitigation system. •1 extraction point / fan; 2 monitoring points (SS probes).	(6/6/13) Leaning towards installation of "regular" (radon) mitigation system; intention to install intrinsically-safe systems later, if site conditions change.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13										
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab	Non-Residential	0.5%	20	2	ND	[redacted]	0.051	•Mitigation - SSDS •(6/6/13) Environmental Doctor selected to install mitigation system •1 extraction point / fan; 2 monitoring points (SS probes)	(6/6/13) Leaning towards installation of "regular" (radon) mitigation system; intention to install intrinsically-safe systems later, if site conditions change.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13										
6	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road	Dan Crago Valley Asphalt Corporation	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd	5054 Building 6	Valley Asphalt Tool trailer with	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - (IA) Methane monitoring only		No Further Action required														
7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and / or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc. & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Unknown ownership. Located on two properties. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methare monitoring only		(6/6/13) Building straddles property line; ownership issues of stored items have escalated. Valley waiting on written authorization to demolish building.	•(6/6/13) ACMs in wallboard joint compound. •Asbestos contractors on-site 6/3/13; quotes due 6/12/13 • No Lead Paint	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A										
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[redacted]				Crawl Space sampling only	0.091	(6/6/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(6/6/13) No ACMs. •Lead Paint on exterior doors and window frame.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A										

6/6/2013

Notes:
[redacted]
NA = Not Analyzed
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VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels)		Date Sampled By CRA January, March, August, and September 2012			Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	Date O&M Manual finalized	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
									Sub-Slab (in ppb)	Indoor Air (in ppb)	Max Methane in Sub-Slab	Max TCE Sub-Slab (in ppb)	Max TCE Indoor Air (in ppb)															
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[illegible]	[illegible]	(6/6/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(6/6/13) •No ACMs. •No Lead Paint.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A									
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of blgd; leave storage / Quonset Hut)	Non-Residential	0.5%	20	2	[illegible]	[illegible]	ND	•Mitigation - intrinsically safe SSDS for south portion (Quonset Hut) of building. •(6/12/13) Environmental Doctor selected to install mitigation system (1 extraction point/fan). •2 monitoring points (SS probes) installed 6/11/13 •Demolish north portion (office) part of building by 7/31/13, dependant on asbestos/lead abatement schedule	(6/6/13) •ACMs found in flooring components. •Abestos contractors on-site 6/3/13; quotes due 6/12/13 • Lead Paint on exterior door.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13								
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required				N/A	N/A	N/A								
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement' Occupied	Non-Residential	0.5%	20	2	ND	[illegible]	ND	•Mitigation - SSDS •(6/12/13) Environmental Doctor selected to install mitigation system (1 extraction point / fan) •1 monitoring point (SS probe) installed 6/11/13	(6/6/13) Leaning towards installation of "regular" (radon) mitigation system; intention to install intrinsically-safe systems later, if site conditions change.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13								
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab: Occupied infrequently	Non-Residential	0.5%	20	2	ND	[illegible]	0.051	•Mitigation - SSDS •(6/12/13) Environmental Doctor selected to install mitigation system (1 extraction point / fan). •2 monitoring points (SS probes) installed 6/11/13	(6/6/13) Leaning towards installation of "regular" (radon) mitigation system; intention to install intrinsically-safe systems later, if site conditions change.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13								
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7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and / or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc. & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Building and contents owned by others. Straddles property line. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		(6/6/13) Building straddles property line; ownership issues of stored items have escalated. Valley waiting on written authorization to demolish building.	•(6/6/13) ACMs in wallboard joint compound. •Asbestos contractors on-site 6/3/13; quotes due 6/12/13 • No Lead Paint.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A	N/A								
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[illegible]	[illegible]	[illegible]	[illegible]	Crawl Space sampling only	0.091	(6/6/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(6/6/13) No ACMs. • Lead Paint on exterior doors and window frame.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A	N/A								

6/13/2013

Notes:

[illegible]

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VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels) Sub-Slab (in ppb)	TCE Screening Levels (10^{-5} levels) Indoor Air (in ppb)	Date Sampled By CRA January, March, August, and September 2012 Max Methane in Sub-Slab	Date Sampled By CRA January, March, August, and September 2012 Max TCE Sub-Slab (in ppb)	Date Sampled By CRA January, March, August, and September 2012 Max TCE Indoor Air (in ppb)	Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to U.S. EPA	Approval Date of U.S. EPA Mitigation Plan	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	Date O&M Manual finalized	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND			(6/6/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(6/6/13) •No ACMs. •No Lead Paint.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A									
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of blgd; leave storage / Quonset Hut)	Non-Residential	0.5%	20	2			ND	•Demolish by 7/31/13, dependant on asbestos/lead abatement schedule	(6/6/13) •ACMs found in flooring components. •Abestos contractors on-site 6/3/13; quotes due 6/12/13 •Lead Paint on exterior door.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13								
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required				N/A	N/A	N/A								
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement' Occupied	Non-Residential	0.5%	20	2	ND		ND	(6/6/13) Demolition (current deadline of 7/31/13 dependant on lead management strategy [pending])	(6/6/13) Leaning towards installation of "regular" (radon) mitigation system; intention to install intrinsically-safe systems later, if site conditions change.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13								
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7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and/or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Building and contents owned by others. Straddles property line. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		(6/6/13) Building straddles property line; ownership issues of stored items have escalated. Valley waiting on written authorization to demolish building.	•(6/6/13) ACMs in wallboard joint compound. •Asbestos contractors on-site 6/3/13; quotes due 6/12/13 •No Lead Paint.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A	N/A								
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Notes:

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TCE = Trichloroethylene
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VALLEY ASPHALT ON-SITE MITIGATION SUMMARY DATABASE SOUTH DAYTON DUMP AND LANDFILL SITEMORAINE, MONTGOMERY COUNTY, OHIO

Number on Map	Building Address	Owner Name & Address	Occupant Name & Address	Other Party(ies) Requiring Notification	Parcel/Building No.	Comments/ Structure	Type	Methane Screening Level	TCE Screening Levels (10^{-5} levels)		Date Sampled By CRA January, March, August, and September 2012			Mitigation Decision	Comments from Previous Meeting(s)	Date Sample Result Letter Mailed	Date of Initial Mitigation Meeting	Date of Mitigation Recon Meeting (SSDS Subcontractor)	Date Mitigation Plan Submitted to EPA	Date EPA Approved Mitigation Plan	Date Mitigation Plan Addendums Submitted to U.S. EPA	Date EPA Approved Mitigation Plan Addendums	RAPCA notification	Date of asbsetos and/or lead removal	Date of Demolition	Date of SSDS Installation	Post-Mitigation Radius of Influence Vacuum Readings	30-day Proficiency SS/IA Sampling	Date O&M Manual finalized	180-day Proficiency SS/IA Sampling	1-year Proficiency SS/IA Sampling	Date of 1-year SSDS Inspection	Date of SSDS upgrade (if necessary)
									Sub-Slab (in ppb)	Indoor Air (in ppb)	Max Methane in Sub-Slab	Max TCE Sub-Slab (in ppb)	Max TCE Indoor Air (in ppb)																				
1	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 1	Valley Asphalt: On slab; Vacant	Non-Residential	0.5%	20	2	ND	[redacted]	[redacted]	(6/6/13) Demolition (tentative deadline of 7/31/13)	(7/12/13) •No ACMs. •No Lead Paint. • ACM / Lead Paint Mgt Plan added to Work Plan as Addendum	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A	N/A	Asbestos/Lead Management Addendum - 6/27/13; VI Mitigation Work Plan Addendum - 7/3/13	7/2/13	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	1903 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 2	Valley Asphalt: Storage Building on slab Valley Asphalt to conduct partial demo (demo front, office portion of bldg; leave storage/Quonset Hut)	Non-Residential	0.5%	20	2	[redacted]	[redacted]	ND	(6/27/13) Demolition selected. (Tentative deadline of 7/31/13 dependant on ACM and/or lead abatement/removal)	(6/20/13) •ACMs found in flooring components. •Demo Dawgs (asbestos abatement contractor) selected •Lead Paint on exterior door.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13	Asbestos/Lead Management Addendum - 6/27/13; VI Mitigation Work Plan Addendum - 7/1/13.	7/2/13	7/10/13			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	1901 Dryden Road				5054 Building 3	Building was demolished in February 2012. Not shown on Figure								No Further Action required				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 4	Valley Asphalt: Pre-fab split level with unfinished basement; Occupied	Non-Residential	0.5%	20	2	ND	[redacted]	ND	•Mitigation - SSDS •(6/12/13) Environmental Doctor selected to install mitigation system (1 extraction point/fan). •2 monitoring points (SS probes) installed 6/11/13	(7/11/13) •SSDS installed. •Radius of Influence testing performed; confirmed. •Moving forward with sampling.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13	Asbestos/Lead Management Addendum - 6/27/13; VI Mitigation Work Plan Addendum - 7/1/13	7/2/13	N/A	N/A	N/A	7/10/13	7/10/13						
5	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 5	Valley Asphalt: On slab. Occupied infrequently	Non-Residential	0.5%	20	2	ND	[redacted]	0.051	(6/27/13) Demolition selected. (Tentative deadline of 7/31/13 dependant on ACM and/or lead abatement/removal)	•(7/11/13) ACMs in window caulking. •Demo Dawgs (asbestos abatement contractor) selected. • No Lead Paint.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	5/23/13	6/10/13	6/10/13	Asbestos/Lead Management Addendum - 6/27/13; VI Mitigation Work Plan Addendum - 7/1/13.	7/2/13	7/10/13			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building 6	Valley Asphalt Tool trailer with concrete Floor 2 windows remain open (via industrial screen in windows), allowing ventilation	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - (IA) Methane monitoring only		No Further Action required				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Jack Boesch and/or Bruce Mangeot B&G Equipment & Truck Repair, Inc. 1951 Dryden Road Moraine, OH 45439	Tina Ortiz Mark Fornes Realty, Inc. & Tim Hoffman Dinsmore & Shohl LLP	5054 Building 7	Building and contents owned by others Straddles property line. Abandoned garage and storage	Non-Residential	0.5%	NA - Methane monitoring only		ND	NA - Methane monitoring only		Demolition: (7/11/13) Building straddles property line; ownership issues (of structure and stored items) continue. Valley waiting on written authorization to demolish building.	•(6/20/13) ACMs in wallboard joint compound. •Demo Dawgs (asbestos abatement contractor) selected • No Lead Paint.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A	N/A	Asbestos/Lead Management Addendum - 6/27/13; VI Mitigation Work Plan Addendum - 7/1/13.	7/2/13	7/10/13			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MP	1901 Dryden Road	James Jurgensen Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Dan Crago Valley Asphalt Corporation 11641 Mosteller Road Cincinnati, OH 45241	Tina Ortiz Mark Fornes Realty, Inc. 7755 Paragon Rd. Suite 106 Dayton, OH 45459	5054 Building MP	Murphy's Plumbing - vacant	Non-Residential	[redacted]				Crawl Space sampling only	0.091	(6/27/13) Demolition selected. (Tentative deadline of 7/31/13 dependant on ACM and/or lead abatement/removal)	(6/6/13) No ACMs. • Lead Paint on exterior doors and window frame.	UPS on 10-23-12; Receipt verified 5/1/13	4/24/13	N/A	N/A	N/A	Asbestos/Lead Management Addendum - 6/27/13; VI Mitigation Work Plan Addendum - 7/1/13.	7/2/13	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7/12/2013

Notes:
[redacted]
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APPENDIX G

EPA/VALLEY MEETING AGENDAS AND MINUTES

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	May 1, 2013	Meeting Time:	3:00 pm – 3:40 pm

Attendees:
- ☒ Arp, Jeff (BMI)
- ☒ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☐ Patterson, Leslie (USEPA, Region 5)
- ☒ Guest: Coleman, Dawn (BMI)
- ☐ Guest:

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

<u>Discussions</u>

1. Work Plan-
   a. Work Plan received by USEPA; under review. Stev e and John will red-line, add comments and return back to Valley and Bowser by end of week.
   b. Extension for submittal of complete Work Plan ap proved for May 15, 2013.
   c. Work Plan should address the following issues:
      i. In lieu of Access Agreement, include language in dicating USEPA and its representatives are authorized to access the Site.
      ii. Include IA and SS sampling during Performance S ampling.
      iii. Provide detail in Performance Sampling section (§4.4).
      iv. Clearly define "intrinsically safe" in the Miti gation Plan (§4.0).
      v. Detail each proposed mitigation system and probe locations (§4.0 and Appendix x).
      vi. Include item in Project Schedule (§7.0) for dem olition activities (within x days).

2. Mitigation Database Summary Review-
   a. Update status, as appropriate, in "Comments" col umn.
   b. Add new column for Items Discussed During Weekly Meetings; update after each meeting, as appropriate.

3. Standard Conference Day/Time-
   a. Weekly teleconferences will be held each Thursda y at 3:00 pm.
   b. Beach has sent standing invitation to meeting.

c. Beach will send reminder email every Wednesday, including updated Mitigation Summary Database.
d. Beach will take Minutes each meeting.
e. Beach will distribute Minutes from each meeting the next working day.
f. Beach will modify the Mitigation Summary Databas e and forward to Sherrard by COB each Tuesday.

4. Other-
   a. Sherrard forwarded report "Summary of Results fr om 2012 Vapor Intrusion Study", Oct. 12, 2012 (thank you!).
   b. QAPP Level II will be required.
   c. During demolition activities, there is no need t o purposefully break up the slab (which will be left in place).
   d. Beach to send email (copy all) to Leslie Patters on asking whether there are restrictions in coring into the landfill (restrictions on who may core into the landfill or restrictions on coring into the landfill).
   e. Valley's sister company is a demolition company and will be doing the demolition. Valley wants to move forward with demolition; moving through proper channels addressing possible ACMs, lead paint, etc.
   f. Sherrard and Crago had building-specific comment s that will be included in the next draft of the Mitigation Database Summary.

<u>Action Items</u>

1. USEPA to complete Work Plan review; send back to Valley. Due 5/3/13.
2. Valley to respond to Work Plan comments. Due 5/ 15/13.
3. Valley (Beach) to update Mitigation Summary Data base, send to Sherrod. Due 5/7/13.
4. Valley (Beach) query L. Patterson i.e.: restrict ions of coring into landfill.

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	May 9, 2013	Meeting Time:	3:00 pm – 3:40 pm

Attendees:
- ☐ Arp, Jeff (BMI)
- ☒ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☒ Patterson, Leslie (USEPA, Region 5)
- ☒ Guest: Marshall, Laura (OEPA, SWDO)
- ☐ Guest: Heck, Kelly (Valley)

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

<u>Discussions</u>

1. Work Plan-
   a. Work Plan comments by USEPA received by Valley
   b. Extension for submittal of complete Work Plan ap proved for May 15, 2013.
   c. Work Plan should address the following issues:
      i. In lieu of Access Agreement, include language in dicating USEPA and its representatives are authorized to access the Site.
      ii. Include IA and SS sampling during Performance S ampling.
      iii. Provide detail in Performance Sampling section (§4.4).
      iv. Clearly define "intrinsically safe" in the Miti gation Plan (§4.0).
      v. Detail each proposed mitigation system and probe locations (§4.0 and Appendix x).
      vi. Include item in Project Schedule (§7.0) for dem olition activities (within x days).

2. Mitigation Database Summary Review-
   a. Demolition tentatively planned for 3 or 4 struct ures:
      i. Building 1
      ii. Building 2 (recent inspection indicates demolit ion of front (office) portion of the building may be difficult, costly or impractical, as its shared wall with the back (Quonset Hut) portion is structurally connected; Valley re-assessing options)
      iii. Building 7 (ownership of building verified to be Jack Boesch, who has given verbal authorization to demolish it)
      iv. Building MP

b. Steve indicated that demolition of building(s) d own to the slab mitigates his (removal action) concerns and that no further action regarding the slabs is necessary.
c. Demolition schedule is dependant on asbestos and lead surveys, which will be performed next Monday and Tuesday.
d. Leslie verified that since the ultimate remedy f or the site is a cap, leaving the slabs in place (after demolition) is acceptable.
e. Mitigation is planned for 2 or 3 structures:
    i. Building 2 (the back portion, the Quonset Hut, t entatively will be mitigated, pending Valley's assessment mentioned above
    ii. Building 4
    iii. Building 5
f. Steve inquired whether Valley was still consider ing the installation of intrinsically safe mitigation systems in all buildings, to anticipate and prepare for possible, future appearance of methane in buildings where methane is not currently an issue. Dan replied that Valley is still considering this option.
g. The area within Building 2 covers approximately 4,000 square feet. Guidance suggests that a single system typically can mitigate up to 1500 square foot. Steve suggested that a single fan may be able to be used for greater coverage if a manifold system was utilized.
h. Building 6 was confirmed to be slab-on-grade; it does not have an earthen floor. This building is used for storage, is not inhabited and has constant ventilation via permanent screens in the building's two doors. No data is available to suggest that sub-slab or indoor air monitoring has taken place. Steve recommended that sub-slab sampling take place; the data generated will drive the removal decision.
i. Steve requested that a photograph of Building 7 be distributed.

3. Other-
    a. In the comments received last week, it was noted that CRA would cease performing the weekly methane monitoring in Building 2. Valley has volunteered to perform the methane monitoring in Building 2 if necessary; Katherine is to contact CRA contact Adam Loney to discuss this issue.

<u>Action Items</u>

1. Valley to submit Work Plan to USEPA. Due 5/15/1 3.
2. Beach to invite Laura Marshall to teleconference s. Due 5/10/13.

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	May 16, 2013	Meeting Time:	3:00 pm – 3:20 pm

Attendees:
- ☒ Arp, Jeff (BMI)
- ☐ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☒ Patterson, Leslie (USEPA, Region 5)
- ☒ Marshall, Laura (OEPA, SWDO)
- ☒ Guest: Heck, Kelly (Valley)

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

<u>Discussions</u>

1. Work Plan-
   a. VI Mitigation Work Plan was submitted to EPA May 15, 2013.
   b. EPA to review and provide additional comments, a s indicated.
   c. Request to include clarifying language regarding intrinsically safe equipment to be used in Building 2.
   d. Details for each proposed mitigation system and components will be shared with this team once provided by the mitigation system contractors.
   e. Request that Bowser Morner provide an index to t he files that have been sent via email.
   f. Request to provide a list of mitigation contract ors to Steve.

2. Mitigation Database Summary Review-
   a. Demolition tentatively planned for 4 structures:
      i. Building 1
      ii. Building 2 front (office) portion of the buildi ng.
      iii. Building 7 (ownership of building verified to be Jack Boesch, who has given verbal authorization to demolish it)
      iv. Building MP
   b. Demolition schedule is dependant on asbestos and lead survey results; sampling teams will be on-site 5/23/13.
   c. Mitigation is planned for 3 structures:
      i. Building 2 (back portion)
      ii. Building 4
      iii. Building 5

<u>Action Items</u>

1. Bowser Morner to provide cost information to Ste ve, once quotes are in.
2. Request to move next week's meeting to the after noon of the 22nd; Beach will arrange for this.

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	May 22, 2013	Meeting Time:	1:00 pm – 1:19 pm

Attendees:
- ☐ Arp, Jeff (BMI)
- ☒ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☒ Patterson, Leslie (USEPA, Region 5)
- ☒ Marshall, Laura (OEPA, SWDO)
- ☐ Guest: Heck, Kelly (Valley)

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

Discussions

1. Work Plan-
   a. Conditional Approval for the VI Mitigation Work Plan issued by USEPA yesterday.
   b. Approval is conditional on submittal of a final copy of the approved Work Plan within seven business day (May 30, 2013).
   c. Distribution of final Work Plans as follows:
      i. One hard copy and three CD-ROM copies to Renninger
      ii. One CD-ROM copy to Patterson
      iii. One CD-ROM copy to Marshall
   d. Discussion regarding Valley request to test samples for less than the full TO-15 spectrum. There currently is no data to suggest that the COCs migrating upward are static; full TO-15 testing will need to be conducted. If, in the future, analytical shows a trend that COCs migrating upward have stabilized, EPA may, at that time, consider reducing the number of TO-15 analytes to be tested.
   e. Typo in Section 7 (reference to ASAOC) identified; will be changed to UAO.

Steve requested that a new section be added to the standard (weekly teleconference meeting) agenda. It was agreed that we will discuss the major milestones, their status and deadlines each week. We then reviewed the Project Schedule, as follows:

1. Submit Final Work Plan no later than 5/30/13 (BMI)
2. Initiate Section 4 (of the Work Plan) tasks no later than 5/28/13 (BMI)(first Section 4 task is to conduct inspections; that is scheduled for tomorrow)(BMI)
3. Obtain quotes from mitigation system installers no later than 5/30/13 (BMI).
4. Select mitigation system installers no later than 6/6/13 (Valley)
5. Receive design for systems no later than 6/13/13 (BMI)
6. Install SS probes in all buildings no later than 6/18/13 (BMI)
7. Submit Monthly Status Reports (BMI)
8. Install SSDS no later than 7/11/13 (BMI)

9. Demolition completed no later than 7/31/13 (Valley)

*[Note – this was not discussed in detail during our call, but on further consideration, I thought would be helpful for others to know that: Contractors will be on-site tomorrow and will provide a quote by May 30. They may include their designs with the quote or by June 13. I plan to talk to each contractor tomorrow and get their initial plans at that time.]

Three or four contractors will be on-site tomorrow. They are: A-Z Solutions, The Environmental Doctor, Geiler Company and Radon Systems.

Our proposal specification package included a requirement to have each mitigation contractor provide a sketch of the system in their design, including the extraction and radius of influence points.

2. Mitigation Database Summary Review-
   a. Demolition tentatively planned for 3 or 4 structures:
      i. Building 1
      ii. Building 2 front (office) portion of the building.
      iii. Building 7 (ownership of building verified to be Jack Boesch, who has given verbal authorization to demolish it)
      iv. Building MP
   b. Demolition schedule is dependant on asbestos and lead survey results, which are expected in-hand by this Friday or next Monday.
   c. Steve asked where the C&DD rubble will go. Vance Road Landfill is a licensed C&DD debris and is located within a few miles of the Valley site. Stoney Hollow landfill, located adjacent to Vance Road Landfill, is licensed to take asbestos. These are the likely disposal facilities for the demo debris.
   d. Mitigation is planned for 3 structures:
      i. Building 2 (back portion)
      ii. Building 4
      iii. Building 5
   e. Steve inquired whether Valley was still considering the installation of intrinsically safe mitigation systems in all buildings. To offer Valley better data, we are requiring the mitigation contractors to provide the cost of intrinsically-safe replacement parts (for systems to be installed in Buildings 4 and 5). Valley and take those costs into consideration after reviewing the quotes.
   f. Steve requested that as details regarding the mitigation become available (ie: number of extraction points, etc.), they be included in the Mitigation Summary Database.

<u>Action Items</u>

1. Valley to submit final Work Plan to EPA. Due May 30, 2013.
2. Beach to include Project Schedule Update to Agenda (done).

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	May 30, 2013	Meeting Time:	3:00 pm – 3:28 pm

Attendees:
- ☒ Arp, Jeff (BMI)
- ☒ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☒ Patterson, Leslie (USEPA, Region 5)
- ☒ Marshall, Laura (OEPA, SWDO)
- ☒ Heck, Kelly (Valley)

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

<u>Discussions</u>

1. Work Plan-
   a. Final VI Mitigation Work Plan will be distribute d to team May 30, 2013.
   b. Distribution changes requested.
   c. Steve requests that an addendum outlining the ma nagement systems for asbestos and lead found in buildings to be demolished (Buildings 1, 7, MP and the front portion of Building 2) be developed and submitted.

2. Project Schedule-
   a. Carrying forward, tasks that have been complete d as per the Project Schedule (Section 7.0 of the Work Plan) will not be discussed after completion, unless an issue arises.
   b. Quotes are due from the licensed mitigation cont ractors today, as follows:
      i. A-Z Solutions
      ii. Environmental Doctor
      iii. Geiler Company
      iv. Radon Solutions (expected to decline quoting, a s they do not hold any HAZWOPER certifications)
      v. Steve requests that the team review the designs during the next meeting.
   c. Two quotes have been received. It was reported that any system that needed to be upgraded with intrinsically safe equipment would cost approximately $5,000 according to one quote.
   d. Valley will select licensed mitigation contracto r no later than 6/6/13
   e. Final design will be completed no later than 6/1 3/13
   f. SS probes are to be installed no later than 6/18 /13
   g. Mitigation systems are to be installed no later than 7/11/13
   h. Standard tasks, such as monthly status reports, weekly teleconferences, periodic sampling will occur as required.
   i. Demolition of buildings may have to be pushed ba ck. The original date of 7/31/13 has been conditional on a finding of no asbestos and no lead in the structures to be demolished.

i. Asbestos has been found in Buildings 2 (front po rtion) and 7.
ii. Lead paint has been found in all buildings to be demolished (but at levels that do not trigger RCRA issues).
iii. Asbestos abatement contractors are scheduled t o view the buildings Monday, 7/3/13.

Our proposal specification package included a requ irement to have each mitigation contractor provide a sketch of the system in their design, including the extraction and radius of influence points.

3. Mitigation Database Summary Review-
   a. Direction from EPA to leave columns % and U blan k at this point.
   b. Demolition still planned for 4 structures:
      i. Building 1
      ii. Building 2 front (office) portion of the buildi ng.
      iii. Building 7 (ownership of building verified to be Jack Boesch, who has given verbal authorization to demolish it)
      iv. Building MP
   c. Asbestos confirmed in Buildings 2 (front/office portion) and 7.
   d. Mitigation is planned for 3 structures:
      i. Building 2 (back portion)
      ii. Building 4
      iii. Building 5
   e. Building 6 is a pre-fabricated shed that is bolt ed to the slab. Valley will remove the shed fro the slab and remove it from site. “No further action” will be noted under the Mitigation Decision column.

<u>Action Items</u>

1. Valley to submit an addendum, outlining manageme nt systems for ACMs and lead paint demolition debris.
2. Beach to include review of mitigation system des igns by licensed mitigation contractors in next meeting’s Agenda.

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	June 6, 2013	Meeting Time:	3:00 pm – 3:38 pm

Attendees:
- ☒ Arp, Jeff (BMI)
- ☒ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☐ Renninger, Steve (USEPA, Region 5)
- ☒ Patterson, Leslie (USEPA, Region 5)
- ☒ Marshall, Laura (OEPA, SWDO)
- ☒ Smith, Maddie (OEPA, SWDO)
- ☒ Hecht, Kelly (Valley)

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

Discussions

Welcome, Maddie Smith (OEPA, SWDO) to the team. Thank you, Laura, for your support during this project; good luck in your new position.

1. Review of proposed vapor recovery and monitoring points design-
   a. Valley has tentatively selected the Environmenta l Doctor to perform this work.
   b. The Environmental Doctor has proposed the follow ing installations:
      i. Building 2 (3,500 ft ^{2}) – one extraction point, one fan and two vacuum monitoring points. Environmental Doctor has provided contingency planning and will bring sufficient materials to add an additional extraction point and/or fan, as indicated by after-installation radius-of-influence testing.
      ii. Building 4 (280 ft ^{2}) - one extraction point, one fan and two vacuum monitoring points.
      iii. Building 5 (594 ft ^{2}) - one extraction point, one fan and two vacuum monitoring points.
   c. Team discussed proposed location of extraction p oints, fans and vacuum monitoring probes and came up with ideas for improvements. A CAD drawing, showing the locations of the system components will be provided prior to next week's meeting.

2. Project Schedule-
   a. Vacuum monitoring probes are scheduled to be ins talled by BMI 6/11/13. However, Steve is on vacation until June 10 and will not have the opportunity to review the mitigation systems' designs prior to his return to the office. This may necessitate rescheduling installation of the vacuum monitoring points.
   b. A Pre-Work Meeting is tentatively scheduled for 6/28/13.
   c. Mitigation system installation is tentatively sc heduled beginning 7/8/13.
   d. John advised the group that the Environmental Do ctor plans to begin the installation of mitigation systems for the PRP Group beginning 6/20/13. We need to coordinate with Environmental

Doctor to ensure that neither project interferes with the progress of the other project.

e. Standard tasks, such as monthly status reports, weekly teleconferences, periodic sampling will occur as required.

f. Asbestos contractors were on-site 6/3/13 and 6/5 /13. Quotes are due next week. A lead management plan is under development. Demolition date will be dependant on asbestos abatement and the lead management plan.

3. Mitigation Database Summary Review-
   a. Demolition still planned for 4 structures:
      i. Building 1
      ii. Building 2 front (office) portion of the buildi ng.
      iii. Building 7 (building straddles property line. Owners of contents of this building have not provided written authorization to demolish it yet.)
      iv. Building MP
   b. Asbestos confirmed in Buildings 2 (front/office portion) and 7.
   c. Lead confirmed in majority of buildings to be de molished; lead management plan being developed.
   d. Mitigation is planned for 3 structures:
      i. Building 2 (back portion)
      ii. Building 4 (Valley leaning towards installation of a non-intrinsically safe system now, with intent to install intrinsically safe components later, if site conditions change)
      iii. Building 5 (Valley leaning towards installatio n of a non-intrinsically safe system now, with intent to install intrinsically safe components later, if site conditions change)
   e. Building 6, a pre-fabricated shed, was unbolted and removed from the underlying slab. "No further action" has been noted under the Mitigation Decision column for Building 6.
4. Other-
   a. Two laboratories capable of providing the approp riate sampling equipment (canisters) and analytical methods are being interviewed:
      i. Test America (Knoxville, TN)
      ii. ESC (Mt. Juliet, TN)
   b. Quotes are expected next week; a decision will b e made shortly thereafter.
   c. Leslie will be on vacation and will miss the nex t three meetings, returning for the first meeting in July.

<u>Action Items</u>

1. Valley to provide CAD, scaled drawings showing b uilding outlines, extraction point, fan and monitoring probe locations (Hecht, 6/7/13)
2. Beach to coordinate installation schedules of mi tigation systems with Environmental Doctor (to ensure meeting Valley's commitment to have systems installed 7/11/13, without compromising the schedule for the installation of the PRP Group's mitigation systems) (Beach, 6/713). DONE
3. Valley to submit an addendum, outlining manageme nt systems for ACMs and lead paint demolition debris (Beach, 6/14/13)

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	June 13, 2013	Meeting Time:	3:00 pm – 3:44 pm

Attendees:
- ☐ Arp, Jeff (BMI)
- ☒ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☐ Patterson, Leslie (USEPA, Region 5)
- ☒ Smith, Maddie (OEPA, SWDO)
- ☒ Hecht, Kelly (Valley)

Facilitator: ☒ Katherine Beach, Bowser Morner, Inc. (BMI)

<u>Discussions</u>

1. Project Plan
   a. Sub slab probes were installed 6/11/13 using vap or pins.
   b. Pre work meeting is scheduled for 6/27/13 during the normal teleconference meeting. Environmental Doctor will be in attendance.
   c. Installation of sub slab depressurization system is scheduled for 7/8/13 – 7/10/13. Environmental Doctor confirmed that no other project will interfere with this schedule.
      i. Immediately after the installation – there will be a grab sample of the effluent from building 2.
      ii. One (1) 8 hr testing will also be taken from ea ch building with a system installed. The sample will either be taken from the furthest away point in the system, or the least vacuum (decision to be made in field)
      iii. Probes will be labeled and will be attached to the final design of the depressurization system.
   d. Building 2 Final Design – field locations will b e located and drawn to scale on the as-builts as soon as the information is received.
   e. Building 4/5 – locations look good
   f. Monthly Progress report will be sent out on the 2nd Thursday of every month
   g. O&M Manuals will be sent in within 60 days of th e start up of the system (approximately September)
2. Mitigation Database
   a. Building 2 – need to watch out for the safety of everyone due to the methane
      i. Environmental Doctor was informed to bring enoug h material just in case more is needed after calculating the radius of influence. Trying to eliminate Environmental Doctor having to come out another time if not enough material is on site.
      ii. Demolition of North Part of Building:

1. ACMs were found in the flooring, mastic, drywall mud, and roofing.
2. Bids were due 6/12/13 and a contractor will be chosen in the beginning of next week
    a. They are all certified and are aware that RAPCA has a 10 day notice period
    b. Contractor to abate the asbestos containing material and send to Stoney Hollow landfill which is licensed
    c. Contractor to remove building elements that have lead paint
    d. Any paint chips will be containerized, tested, and disposed of properly

b. Building 4
    i. Monitoring probes in place

c. Building 5
    i. Monitoring probes in place

d. Building 7
    i. Building straddles property line; ownership issu es of stored items have escalated. Valley waiting on written authorization to demolish building.
    ii. Asbestos will need to be abated

e. MP – dependent on lead abatement plan

3. Other
    a. Dates on Demolition
        i. Original date is 7/31, still trying to meet that deadline (depends on quotes for the abatement).
    b. Plans on Removal
        i. Implement plan from contractor chosen

<u>Action Items</u>

1. Valley to provide scaled drawings of monitoring probes installed on 6/11/2013

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	June 20, 2013	Meeting Time:	3:00 pm – 3:20 pm

Attendees:
- ☒ Arp, Jeff (BMI)
- ☐ Sherrard, John (Dynamac)
- ☒ Crago, Dan (Valley)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☐ Patterson, Leslie (USEPA, Region 5)
- ☒ Smith, Maddie (OEPA, SWDO)
- ☒ Hecht, Kelly (Valley)

Facilitator: ☐ Katherine Beach, Bowser Morner, Inc. (BMI)

<u>Discussions</u>

1. Database Chart
   a. Determining whether keeping bldgs 5 and 2 are co st effective, trying to salvage but with volume of testing/long term commitment - might not be financially feasible.
   b. If there are changes to the buildings being demo lished or mitigated, the work plan must be modified
      i. Summarize as an addendum
   c. Asbestos and Lead in Bldgs 5 and 2
      i. Building 2 – small 4' x 8' patch tile on floor, the rest is untainted metal. Plan is to remove tiles, and assume worst case scenario (ACM) in order to eliminate pre tests
      ii. Building 5 – it is a modular building on the sl ab, instead of full demo, Valley wants to move building off site. Waiting for final approval
   d. Building 4 – control building – continue mitigat ion of this bldg due to the fact that this building is vital to making asphalt during asphalt season.
   e. Building 7 – still waiting on approval from the owners of the stored items. A Letter of Intent will be mailed stating the demolition will begin soon.
   f. Plan is to pull out mitigation chapter and demol ition chapter and update
   g. Environmental Doctor was informed of proposed ch anges and will still be able to install the one (1) mitigation system on 7/10/2013.
2. Project Plan
   a. Monthly progress reports will still be sent out on the 2nd Thursday of every month
   b. O&M Manuals will still be sent in within 60 days of the start up of the system
   c. 7/31/13 deadline- still remains
   d. Decision will be made within the next week

3. Action Items
    a. Scaled drawings of monitoring probes in building 4 attached
    b. Updated work plan (mitigation chapter/demolition chapter)
        i. Any modifications
        ii. Addendums

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	June 27, 2013	Meeting Time:	3:00 pm – 3:206pm

Attendees:
☒ Arp, Jeff (BMI)
☒ Sherrard, John (Dynamac)
☒ Hecht, Kelly (Valley)
☒ Renninger, Steve (USEPA, Region 5)
☐ Patterson, Leslie (USEPA, Region 5)
☒ Smith, Maddie (OEPA, SWDO)
☒ Katherine Beach, Bowser Morner, Inc. (BMI)
☒ John Avery (Environmental Doctor)
☒ Mike Ward (Environmental Doctor)

Facilitator: ☒ Dan Crago (Valley)

<u>Discussions</u>

1. Work Plan
   a. Control Building #4
      i. Scheduled for July 10[th], should only take about 3-4 hours to complete. One extraction point is scheduled, but will have enough equipment for two
      ii. When radius of influence is calculated, a Y bra nch will be used for another extraction point if needed.
      iii. USEPA prefers more extraction points instead o f a bigger fan to keep the vacuum low
      iv. On site safety and security training will be co mpleted prior to start of work
      v. Sub surface utilities will be accounted for
      vi. Extra coring equipment will be available in cas e another extraction point is needed
      vii. Pictures will be taken of room and sent out so a second point will be chosen if needed
      viii. Keep record of the vacuum readings

2. Database Chart
   a. Changes made
      i. All of Building 2 is being tested for lead and a sbestos, and then being demolished
      ii. Building 5 is being tested for lead and asbesto s, and then being demolished
      iii. Added 2 new columns showing dates for lead and asbestos removal, and demolition dates.
3. Work Plan
   a. Asbestos and Lead
   b. Work Plan
      i. Effluent testing was changed from Building 2 to Building 4 since that is the only building being mitigated

ii. Added Tentative dates

iii. Asbestos testing verbal will be received today , with lead at the latest Monday July 1st

4. Action Items
    a. Work Plan Updates
    b. RAPCA notification
    c. Mitigation Install scheduled for July 10
    d. Next Meeting is July 11 due to holiday

Meeting Minutes
Valley Asphalt Site, Moraine, Ohio
(South Dayton Dump & Landfill)

Meeting Date:	July 11, 2013	Meeting Time:	3:00 pm – 3:27pm

Attendees:
- ☐ Arp, Jeff (BMI)
- ☒ Beach, Katherine (BMI)
- ☒ Hecht, Kelly (Valley)
- ☐ Patterson, Leslie (USEPA, Region 5)
- ☒ Renninger, Steve (USEPA, Region 5)
- ☐ Sherrard, John (Dynamac)
- ☒ Smith, Maddie (OEPA, SWDO)

Facilitator: ☒ Crago, Dan (Valley)

Steve Renninger joined the meeting, but had to respond to an emergency. Dan reported that there were no critical issues and we were still moving ahead with the Work Plan. Steve requested that we proceed with the meeting; he left the meeting.

<u>Discussions</u>

1. Work Performed
   a. Building #4
      i. Safety training was provided by Mr. Keith Clay, Valley Safety professional.
      ii. Entire building was field screened (PID) prior to installation of SSDS. Readings indicated seepage from hole in slab cored previous week in anticipation of installation of the SSDS.
      iii. SSDS was installed 7/10/13 with a single extra ction point (at planned location).
      iv. Radius of influence was confirmed at furthest s ub-slab probe (-0.029 "w.c.).

2. Work Plan
   a. Sampling
      i. Grab sample from SSDS effluent and 8-hour sample from sub-slab probe tentatively scheduled for 7/17/13.
   b. Asbestos and Lead
      i. Demo Dawgs submitted the 10-day notice to RAPCA 7/9/13 or 7/10/13.
      ii. Abatement is tentatively planned for 7/23/13 or 7/24/13.
      iii. Once abatement is complete, Cox & Sons will de molish the buildings.
      iv. Demolition is contingent on completion of the a batement; demolition tentatively scheduled for 7/29/13 through 8/2/13.
   c. Problems Encountered

i. Another person has stepped forward indicating ow nership of Building 7. Plans to demolish Building 7 continue to be in limbo until legal issues are resolved.

3. Action Items
   a. Take photos of Building 4 (inside and outside) a nd distribute to team prior to next meeting.

Thank you for attending and being prepared. Please let me know if these minutes contain inaccuracies or misstatements.

APPENDIX H

OM&M PLAN FORMS

ATTACHMENT H1 – BUILDING PHYSICAL SURVEY QUESTIONNAIRE

ATTACHMENT H2 – INSPECTION CHECKLIST

ATTACHMENT H3 – REPAIR LOG

BOWSER MORNER®

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONNAIRE

Date: ________________ Time: _______________ Inspector: ____

Address: _____________________________________ Site Layout: Parcel Number: _________ Building : ________

Building Owner: _______________________________

Occupant Name: _______________________________

Contact Name: ________________________________

Phone Number: _______________________________

Time resident/employed in home/building? __________

Occupation: ___________________________________

Number and Age of Occupants: Adults: _____________

Children: _____________

BUILDING TYPE: One-Story _____Two-Story _____ Multi-Story _____ Brick _____ Siding _____ Stucco______
(Circle One) Residential / Industrial / Commercial / Multi-use / Other (specify) ________________________________
If residential, what type (circle): Single Family / Condo / Multi-family / Other (specify)____________________________
If multiple units, how many? ______
If commercial, what is the business? __________________________ Hours of Occupation/Occupancy? _____________
Does the commercial property include residences (i.e., multi-use)? Y N
If yes, how many? ______

DESCRIBE BUILDING: _______________________________________ YEAR CONSTRUCTED: ____________
Is the building insulated? Y / N How air tight? Tight / Average / Not Tight
Previous Uses: ____

WEATHER SEALS: General Condition: Good _______ Fair ______ Poor ______ Not Present ______
Are doors/windows kept open to allow for outdoor-to-indoor air exchange? ____________________________________

BASEMENT/: BOTTOM FLOOR	None	Finished	Unfinished	Depth below reference point (meters)	Floor covering
	Partial			________________	____________
	Full			________________	____________
	Crawl Space	N/A	N/A	________________	____________
	Slab-on-grade			________________	____________

Is the bottom floor used as a living/work space area? (circle) Y / N

Number of floors at or above grade: ______

Depth of basement below grade: ______ ft. Basement Size: ______ ft^2

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONAIRE

Foundation construction: Poured concrete Concrete block Cinder block Stone

Walls: Poured Block Stone Othere ______________________________

Walls: Unsealed Sealed Sealed with ______________________________________

Integrity walls: Good Fair Poor

The bottom floor is: Wet Damp Dry Moldy

Any visual evidence of leakage through bottom floor walls or floor Yes No

Floor Construction: Poured concrete Wood Earth Brick Other: _____

Floor condition (cracks, drains): ____

Condition at floor / wall joint (if visible): ____

Any exterior openings from the bottom floor:

Vents Fans Windows
Wall openings Utility pipe penetrations Other: __________________________________

Type of ground cover outside of building: grass / concrete / asphalt / other (specify): _______________

Sub-slab vapor / moisture barrier in place? Yes / No / Don't know Type of barrier: ____________________________

RADON SYSTEM: Yes No Is the system active or passive? Active / Passive

Do you have sump?: Yes No Where: ____(show on figure)

If yes, sealed open NA If yes, is there water in the sump?: Yes No

Have there ever been a fire in the building?: Yes No

If yes, describe its location and extent : ____

Is there a laundry room located inside the house/building?: Yes No

If yes, describe its location: ____

WATER AND SEWAGE

Is this building serviced with municipal water? Yes No

Water well present?: Yes No Don't know Is well used for drinking water? Yes No

Well location: ____________________ (show on figure) What do you use the well for?: ____________________

Do you have a cistern?: Yes No Don't know

If yes, describe its location: ____

Do you have septic system?: Yes No

If yes, describe its location: ____(show on figure)

If yes, describe how septic system is cleaned: ____

GARAGE: Is there an attached garage? Yes No Describe: ____

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONAIRE

HEATING, VENTILLATION, AND AIR CONDTIONING

Type of heating system(s) used (circle all that apply, note primary)

Hot air circulation	Heat pump	Hot water baseboard
Space heaters	Stream radiation	Radiant floor
Electric baseboard	Wood stove	Outdoor wood boiler

FURNACE: Location: ______________________________

Type: Gas	Forced air	Wood
Oil	Hot water	Propane
Electric	Coal	Other: __________

Does furnace have outside combustion air vent? __________

Do you have a fireplace? Yes No Does fireplace have an outside combustion air vent? Yes No

Do you use kerosene space heaters? Yes No

AIR CONDITONER: None Central Window units

(If yes, which rooms and capacities?) ______________________________

SPILL/CONTAMINANT SOURCE INFORMATION

Visual evidence of spills/releases: ______________________________

Type of petroleum/VOC release? ______________________________

When did the release occur? ______________________________

What areas of the building have been impacted by the release? ______________________________

Are there any odors? Yes No If yes, describe the odors: ______________________________

Where are the release-related odors found? ______________________________

Photo Direction	Subject

FORM 1: BUILDING PHYSICAL SURVEY QUESTIONAIRE

Building Layout:
Parcel Number ______; Building ______

Mark the following on the below Figure: Additions or Modifications; door / windows / loading docks kept open for air exchange; building compartmentalization, inclu ding size and locations of compartments.

PARID:
PARCEL LOCATION:

Sub-Slab Depressurization System
Annual O&M Inspection Form

Property Address: 1901 or 1903 Dryden Road, Moraine, Ohio

Temperature (Ambient) ____ F

Owner's Name: Valley Asphalt

Temperature (Building) ____ F

Building Designation: ☐ 4

Barometric Pressure ____ "Hg

Inspector Name: ____________________

Weather Conditions: ____________________

Date: ____________________

Time: ____________________

Exterior System Inspection		Interior System Inspection	
Is fan intact and operating?	Yes No	Any heaving or subsidence at suction point?	Yes No
Any unusual fan vibrations?	Yes No	Any whistling noises noted?	Yes No
Is vent piping/downspout intact?	Yes No	Caulk seals inspected?	Yes No
Any caulking required around fan and piping connections?	Yes No	Cracking or Separation of piping joints?	Yes No

Notes of Inspection Results:

Measurements

System Manometer Reading		" H_2o	Initial System Manometer Reading		" H_2o
Vacuum Point #1		" H_2o	Vacuum Point #1		" H_2o
Vacuum Point #2		" H_2o	Vacuum Point #2		" H_2o
Vacuum Point #3		" H_2o	Vacuum Point #3		" H_2o
Vacuum Point #4		" H_2o	Vacuum Point #4		" H_2o
Is the Manometer Steady?	Yes No				

Comments (any repairs made while visiting, etc…):

Sub-Slab Depressurization System
Sub-Slab Depressurization Monitoring Probe
Repair Log

Property Address: 1901 or 1903 Dryden Road, Moraine, Ohio

Owner's Name: Valley Asphalt

Building Designation: ☐ 4

Inspector Name: ____________________

Date: ____________________

Time: ____________________

Temperature (Ambient) ____ F

Temperature (Building) ____ F

Barometric Pressure ____ "Hg

Weather Conditions: ____________________

System Component Inspected/Repaired/Replaced

Component	Inspected?		Repaired?		Replaced?	
Floor integrity (no new cracks)	☐ Yes	☐ No	☐ Yes	☐ No	☒ N/A	
Seal of PVC at floor	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
PVD discharge pipe run (include joints)	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Seal of PVC pipe run through exterior wall	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Seal of PVC pipe run through fan	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Electrical components from fan to box	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
PVC discharge pipe above roof	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Probe	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Probe Cement/Seal	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No

Comments (any repairs made while visiting, etc…):

APPENDIX I

QUALITY MANAGEMENT PLAN

BOWSER MORNER®

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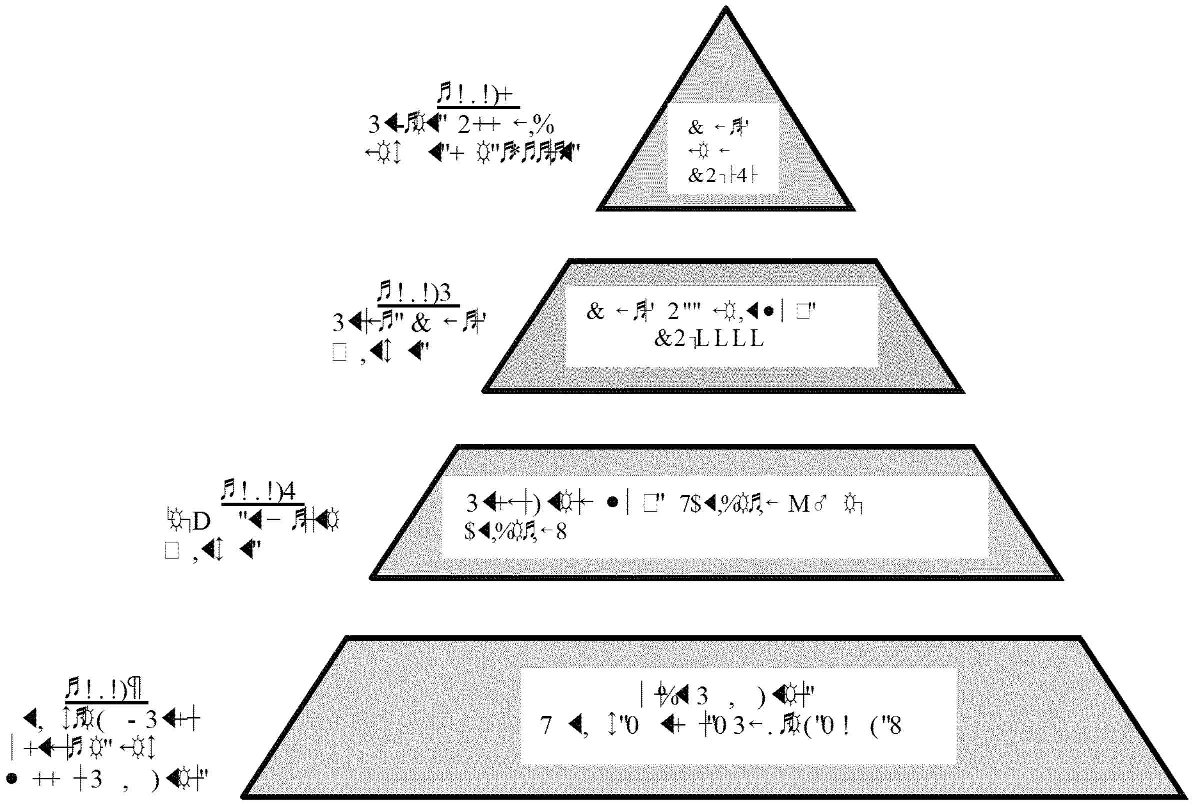

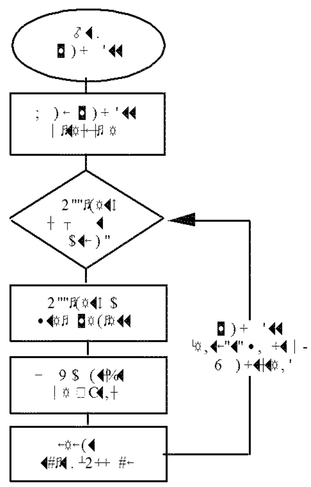

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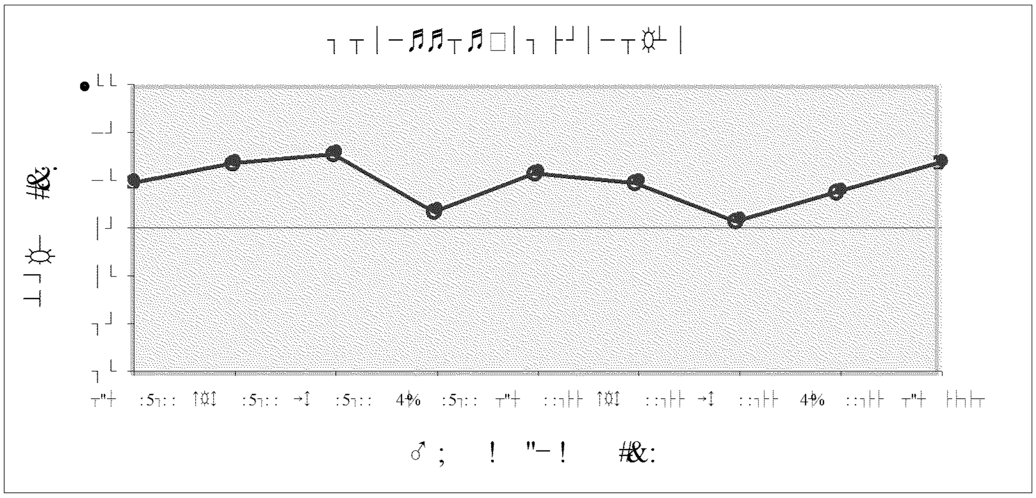

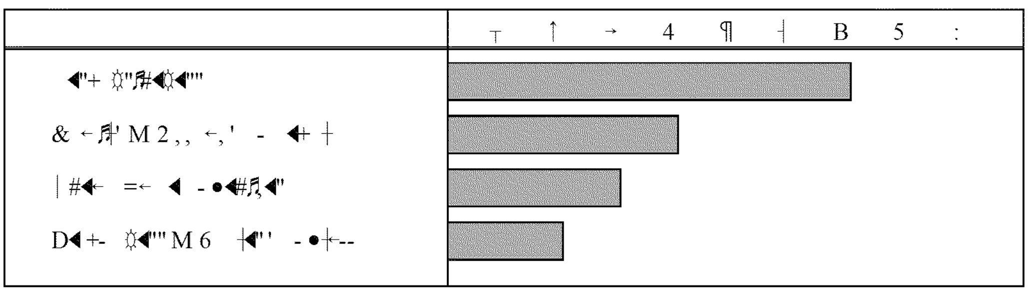

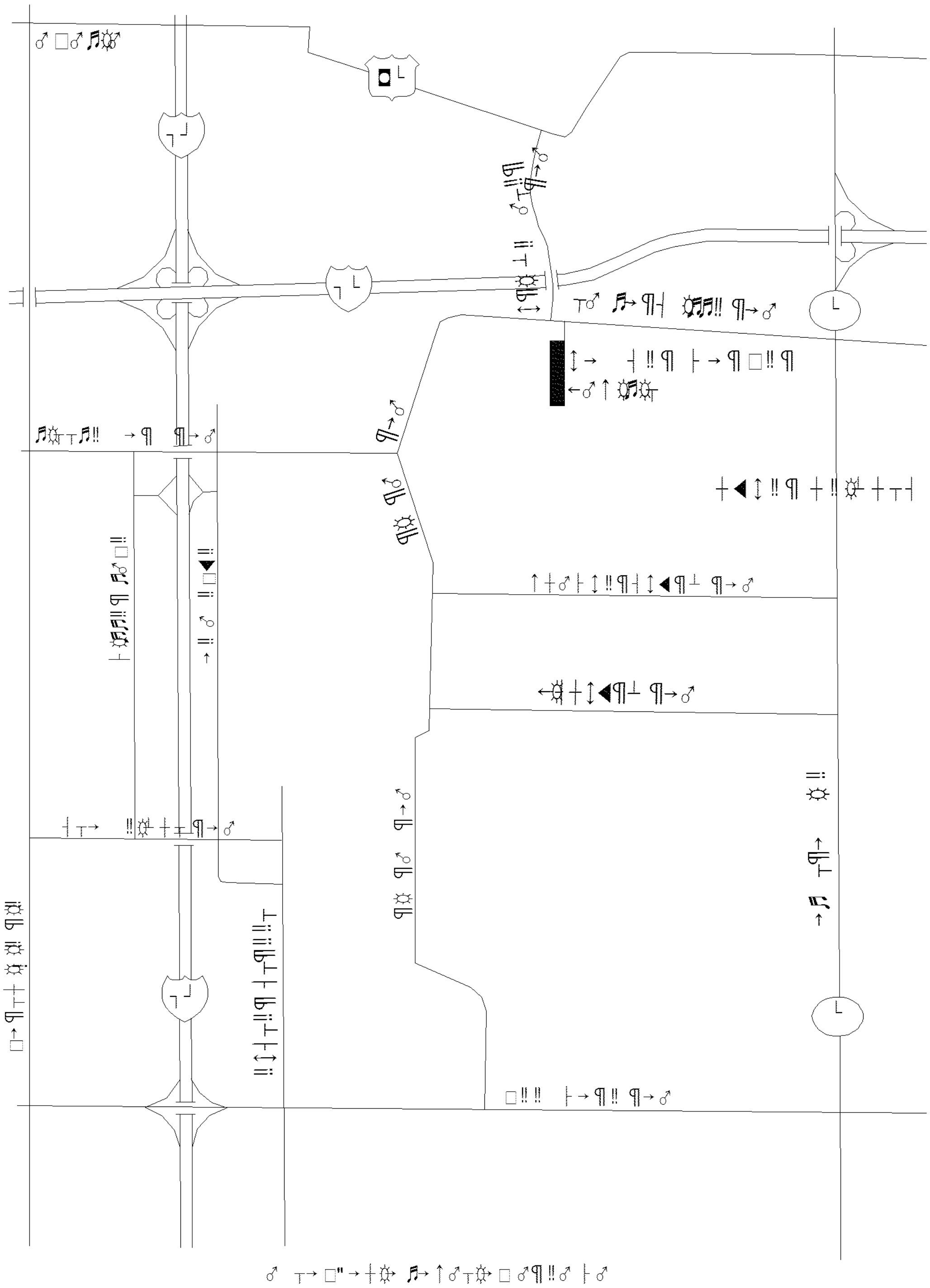

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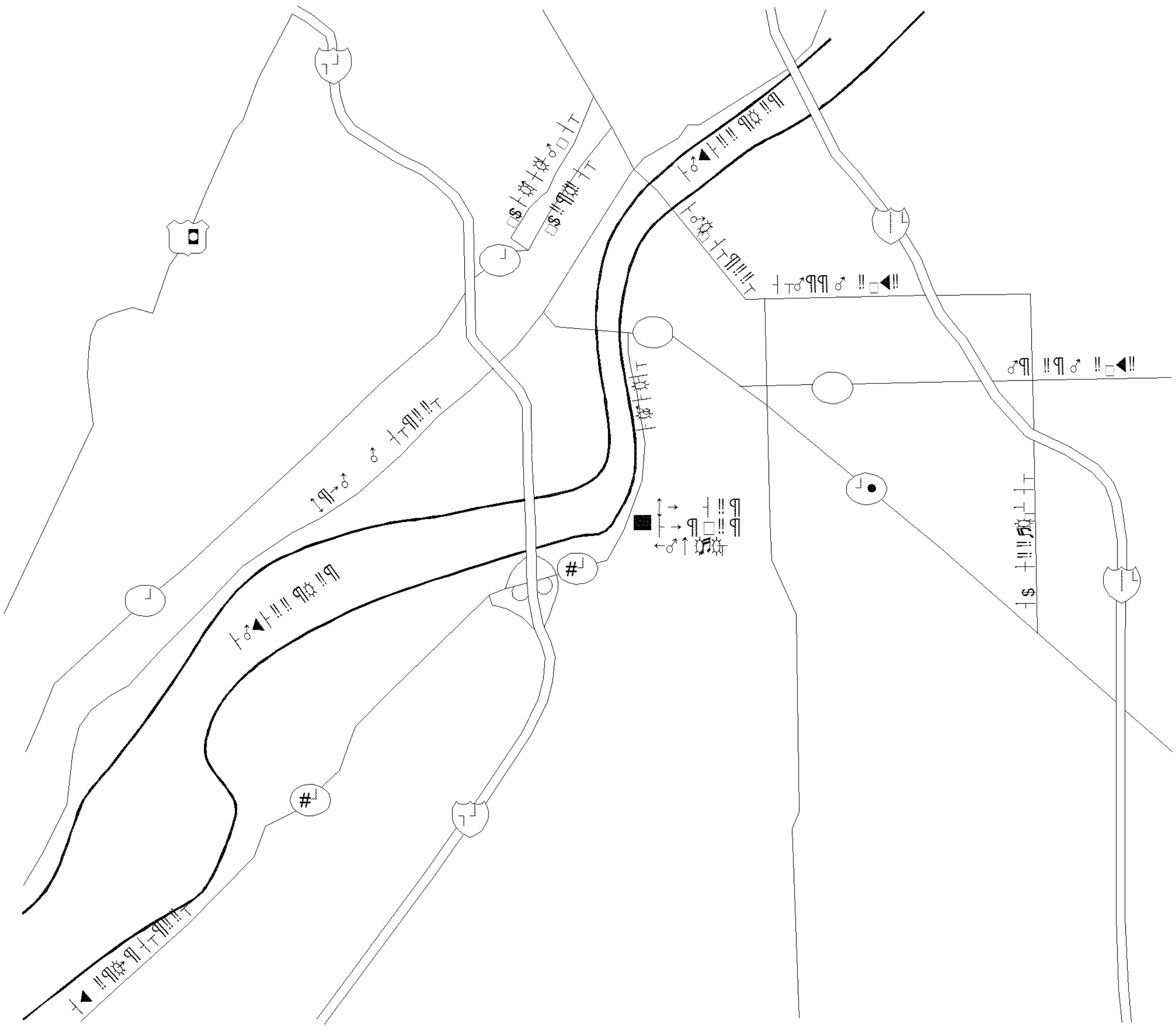

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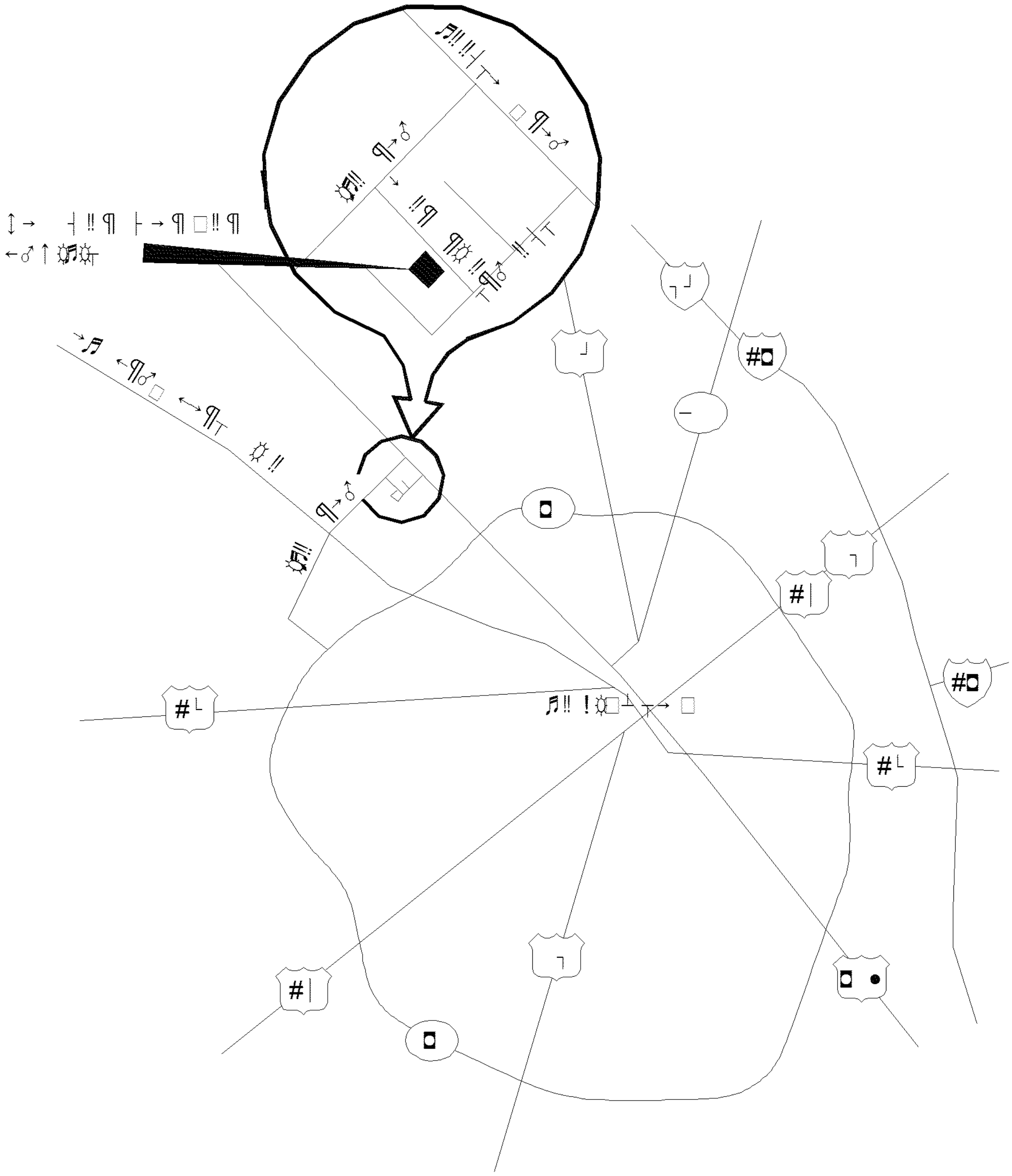

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APPENDIX J

EPA RESPONSE ENGINEERING AND ANALYTICAL CONTRACT (REAC) SOP# 2082

Response Engineering and Analytical Contract

STANDARD OPERATING PROCEDURES

CONSTRUCTION AND INSTALLATION OF PERMANENT SUB-SLAB SOIL GAS WELLS

CONTENTS

1.0 SCOPE AND APPLICATION

This standard operating procedure (SOP) outlines the procedure used for the construction and installation of permanent sub-slab soil gas wells. The wells are used to sample the gas contained in the interstitial spaces beneath the concrete floor slab of dwellings and other structures.

Soil gas monitoring provides a quick means of detecting volatile organic compounds (VOCs) in the soil subsurface. Using this method, underground VOC contamination can be identified and the source, extent and movement of pollutants can be traced.

2.0 METHOD SUMMARY

Using an electric Hammer Drill or Rotary Hammer, an inner or pilot hole is drilled into the concrete slab to a depth of approximately 2" with the " diameter drill bit. Using the pilot hole as the center, an outer hole is drilled to an approximate depth of 1 " using the 1" diameter drill bit. The 1" diameter drill bit is then replaced with the " drill bit. The pilot hole is drilled through the slab and several inches into the sub-slab material. Once drilling is completed, a stainless steel probe is assembled and inserted into the predrilled hole. The probe is mounted flush with the surrounding slab so it will not interfere with pedestrian or vehicular traffic and cemented into place. A length of Teflon® tubing is attached to the probe assembly and to sample container or system.

3.0 SAMPLE PRESERVATION, CONTAINERS, HANDLING AND STORAGE

3.1 SUMMA® Canister Sampling

After the sub-slab soil gas sample is collected, the canister valve is closed, an identification tag is attached to the canister and the canister is transported to a laboratory under chain of custody for analysis. Upon receipt at the laboratory, the data documented on the canister tag is recorded. Sample holding times are compound dependent, but most VOCs can be recovered from the canister under normal conditions near the original concentration for up to 30 days. Refer to REAC SOP #1704, *SUMMA Canister Sampling* for more details.

3.2 Tedlar® Bag Sampling

Tedlar® bags most commonly used for sampling have a 1-liter volume capacity. After sampling, the Tedlar® bags are stored in either a clean cooler or an opaque plastic bag at ambient temperature to prevent photodegradation. It is essential that sample analysis be undertaken within 24 to 48 hours following sample collection since VOCs may escape or become altered. Refer to REAC SOP #2102, *Tedlar® Bag Sampling* for more details.

4.0 INTERFERENCES AND POTENTIAL PROBLEMS

The thickness of a concrete slab may vary from structure to structure. A structure may also have a single slab where the thickness varies. A slab may contain steel reinforcement (REBAR). Drill bits of various sizes and cutting ability will be required to penetrate slabs of varying thicknesses or those that are steel-reinforced.

5.0 EQUIPMENT/APPARATUS

- Hammer Drill or Rotary Hammer
- Alternating current (AC) extension cord
- AC generator, if AC power is not available on site
- Hammer or Rotary Hammer drill bit, "diameter
- Hammer or Rotary Hammer drill bit, 1"diameter
- Portable vacuum cleaner
- 1 - ¾" open end wrench or 1-medium adjustable wrench
- 2 - 9/16" open end wrenches or 2-small adjustable wrenches
- Hex head wrench, ¼"
- Tubing cutter
- Disposable cups, 5 ounce (oz)
- Disposable mixing device (i.e., popsicle stick, tongue depressor, etc.)
- Swagelok® SS-400-7-4 Female Connector, ¼" National Pipe Thread (NPT) to ¼" Swagelok® connector
- Swagelok® SS-400-1-4 Male Connector, ¼"NPT to ¼" Swagelok® connector
- ¼" NPT flush mount hex socket plug, Teflon®-coated
- ¼" outer diameter (OD) stainless steel tubing, pre-cleaned, instrument grade
- ¼" OD Teflon® tubing
- Teflon® thread tape
- ┐ OD stainless steel rod, 12 to 24 length
- Swagelok Tee, optional (SS-400-3-4TMT or SS-400-3-4TTM)

6.0 REAGENTS

- Tap water, for mixing anchoring cement
- Anchoring cement
- Modeling clay

7.0 PROCEDURES

7.1 Probe Assembly and Installation

1. Drill a " diameter inner or pilot hole to a depth of 2" (Figure 1, Appendix A).

2. Using the " pilot hole as your center, drill a 1" diameter ou ter hole to a depth of 1 ". Vacuum out any cuttings from the hole (Figure 2, Appendix A).

3. Continue drilling the inner or pilot hole through the slab and a few inches into the sub-slab material (Figure 3, Appendix A). Vacuum out any cuttings from the outer hole.

4. Determine the length of stainless steel tubing required to reach from the bottom of the outer hole, through the slab and into the open cavity below the slab. To avoid obstruction of the probe tube, ensure that it does not contact the subslab material. Using a tube cutter, cut the tubing to the desired length.

5. Attach the measured length (typically 12) of ¼" OD stainless tubing to the female connector (SS-400-7-4) with the Swagelok® nut. Tighten the nut.

6. Insert the ¼" hex socket plug into the female con nector. Tighten the plug. **Do not over tighten**. If excessive force is required to remove the plu g during the sample set up phase, the probe may break loose from the anchoring cement.

7. Place a small amount of modeling clay around the stainless steel tubing adjacent to the Swaglok® nut, which connects the stainless steel tubing to the female connector. Use a sufficient amount of modeling clay so that the comp leted probe, when placed in the outer hole, will create a seal between the outer hole andthe inner hole. The clay seal will prevent any anchoring cement from flowing into the inner ho le during the final step of probe installation.

8. Place the completed probe into the outer hole. The probe tubing should not contact the sub-slab material and the top of the female connector should be flush with the surface of the slab and centered in the outer hole (Figure 4, AppendixA). If the top of the completed probe is not flush with the surface of the slab, due to the outer hole depth being greater than 1 ", additional modeling clay may be placed around the s tainless steel tubing adjacent to the Swaglok® nut, which connects the stainless steel tubing to the female connector. Use a sufficient amount of clay to raise the probe untilit is flush with the surface of the slab while ensuring that a portion of the clay will still contact and seal the inner hole.

9. Mix a small amount of the anchoring cement. Fill the space between the probe and the outside of the outer hole. Allow the cement to cure according to manufacturers instructions before sampling.

7.2 Sampling Set-Up

1. Wrap one layer of Teflon® thread tape onto the NPT end of the male connector (SS-400-1-4). Refer to Figure 5, Appendix A.

2. Remove the ¼" hex socket plug from the female connector (SS-400-7-4). Refer to Section 7.3 if the probe breaks loose from the anchoring cement during this step.

3. To ensure that the well has not been blocked by the collapse of the inner hole below the end of the stainless steel tubing, a stainless steel rod, ┐ diameter, may be passed through the female connector and the stainless steel tubing. The rod should pass freely to a depth greater than the length of the stainless steel tubing, indicating an open space or loosely packed soil below the end of the stainless steel tubing. Either condition should allow a soil gas sample to be collected.

   If the well appears blocked, the stainless steel rod may be used as a ramrod in an attempt to open the well. If the well cannot be opened, the probe should be reinstalled or a new probe installed in an alternate location.

4. Screw and tighten the male connector (SS-400-1-4) into the female connector (SS-400-7-4). **Do not over tighten**. This may cause the probe to break loose from the anchoring cement during this step or when the male connector is removed upon completion of the sampling event. Refer to Section 7.3 if the probe breaks loose from the anchoring cement during this step.

5. If a collocated sub-slab sample or split sample is desired, a stainless steel Swagelok Tee (SS-400-3-4TMT or SS-400-3-4TTM) may be used in place of the Swagelok male connector (SS-400-1-4).

6. Attach a length of ¼"OD Teflon® tubing to the male connector with a Swagelok® nut. The Teflon® tubing is then connected to the sampling container or system to be used for sample collection.

7. After sample collection remove the male connector from the probe and reinstall the hex socket plug. **Do not over tighten** the hex socket plug. If excessive force is required to remove the plug during the next sampling event the probe may break loose from the

anchoring cement. Refer to Section 7.3 if the prob breaks loose from the anchoring cement during this step.

7.3 Repairing a Loose Probe

1. If the probe breaks loose from the anchoring ceme nt while removing or installing the hex head plug or the male connector (SS-400-1-4), lift the probe slightly above the surface of the concrete slab.

2. Hold the female connector (SS-400-7-4) with the ¾" open end wrench.

3. Complete the step being taken during which the probe broke loose, following the instructions contained in this SOP (i.e., **Do not over tighten** the hex socket plug or male connector).

4. Push the probe back down into place and reapply the anchoring cement.

5. Modeling clay may be used as a temporary patch to effect a seal around the probe until the anchoring cement can be reapplied.

8.0 CALCULATIONS

This section is not applicable to this SOP.

9.0 QUALITY ASSURANCE/QUALITY CONTROL

An additional collocated soil gas well is installed with the frequency of 10 percent (%) or as specified in the site-specific Quality Assurance Project Plan (QAPP) . The following general Quality Assurance (QA) procedures apply:

1. A rough sketch of the area is drawn where the por ts are installed with the major areas noted on the sketch. This information may be transferred to gra phing software for incorporation into the final deliverable.

2. A global positioning system (GPS) unit may be used to document coordinates outside of a structure as a reference point.

3. Equipment used for the installation of sampling p orts should be cleaned by heating, inspected and tested prior to deployment.

Response Engineering and Analytical Contract

STANDARD OPERATING PROCEDURES

10.0 DATA VALIDATION

This section is not applicable to this SOP.

11.0 HEALTH AND SAFETY

When working with potentially hazardous materials, follow Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and Lockheed Martin corporate health and safety procedures. All site activities should be documented in the site-specific health and safety plan (HASP).

12.0 REFERENCES

This section is not applicable to this SOP.

13.0 APPENDICES

A - Figures

APPENDIX A
Soil Gas Installation Figures
SOP #2082
March 2007

FIGURE 1

INNER or PILOT HOLE

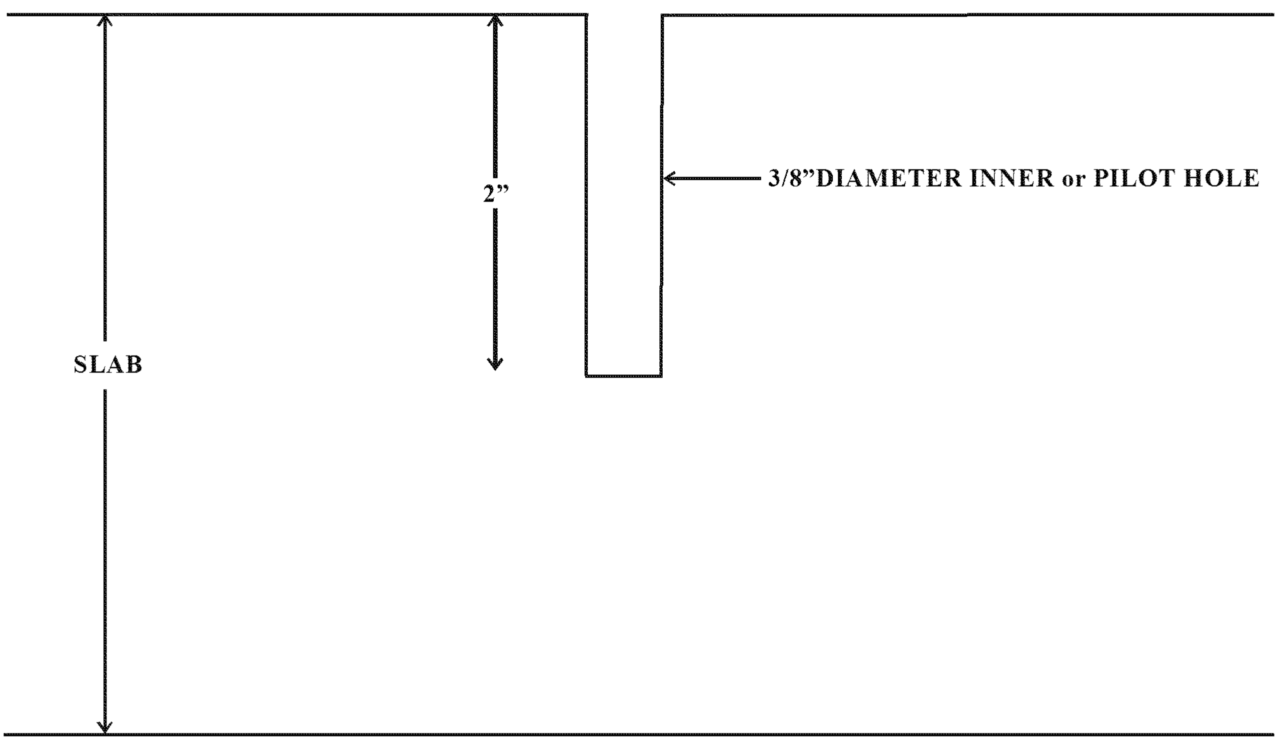


FIGURE 2

OUTER HOLE

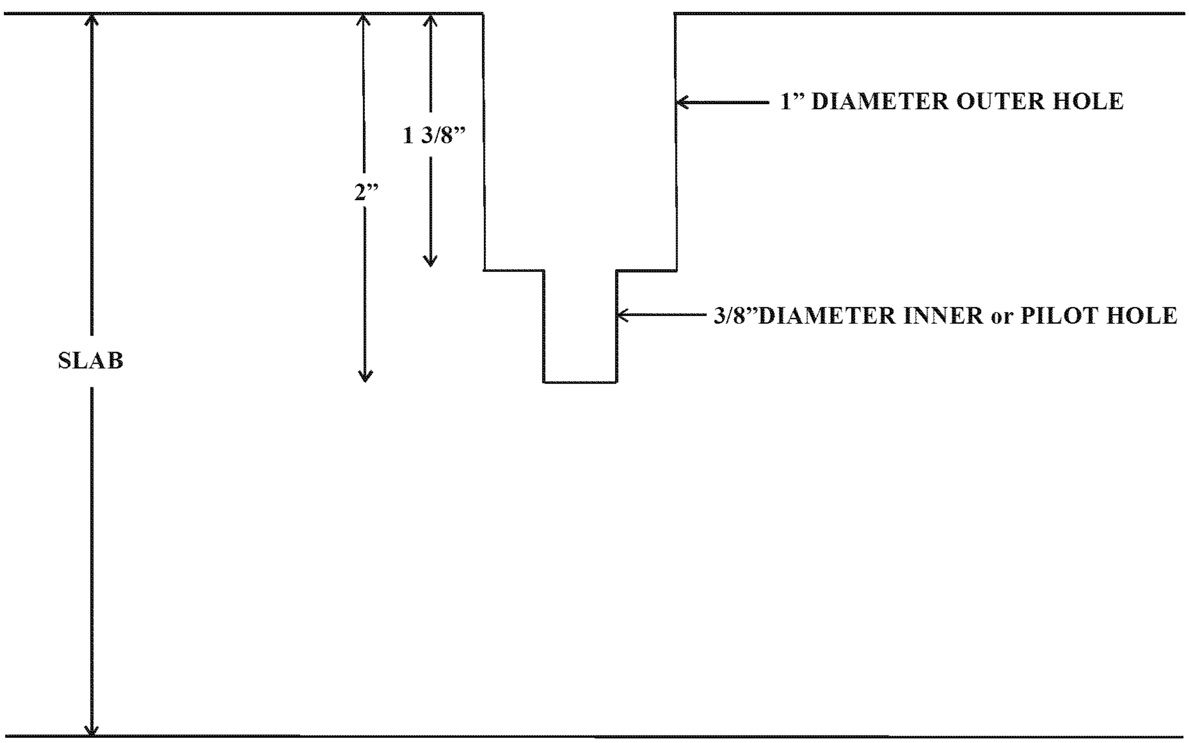


FIGURE 3

COMPLETED HOLE PRIOR to PROBE INSTALLATION

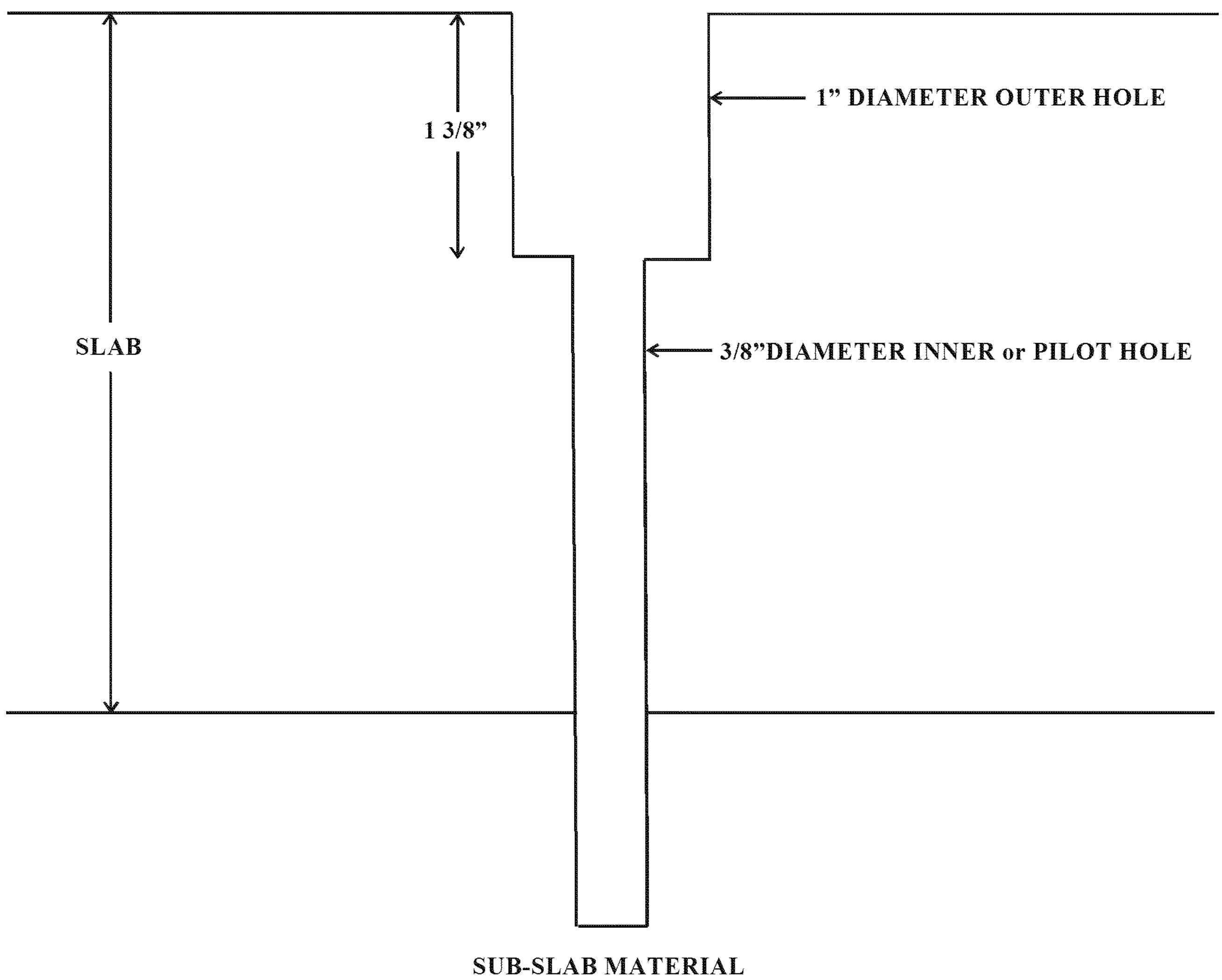


FIGURE 4

SOIL GAS PROBE INSTALLED

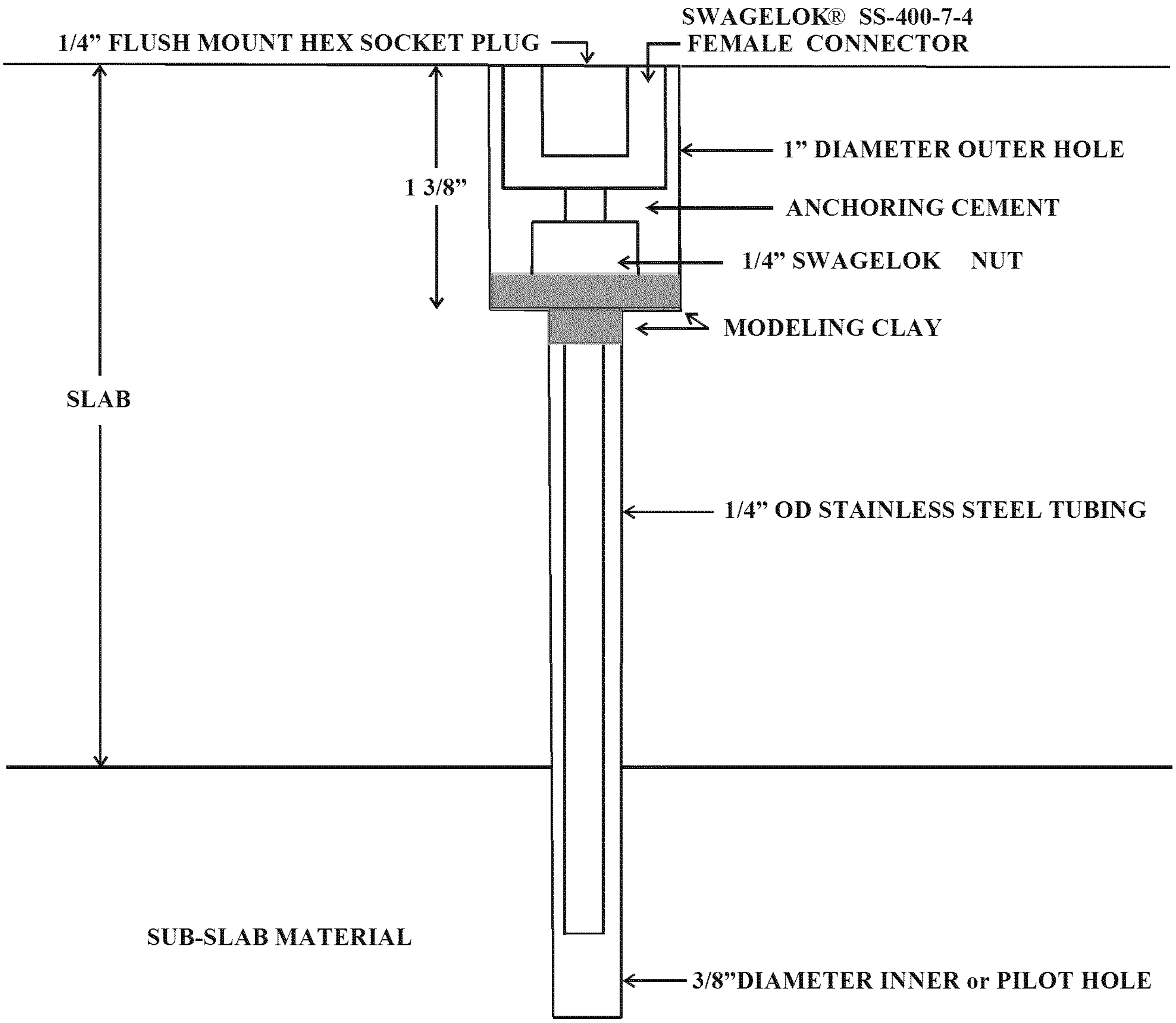
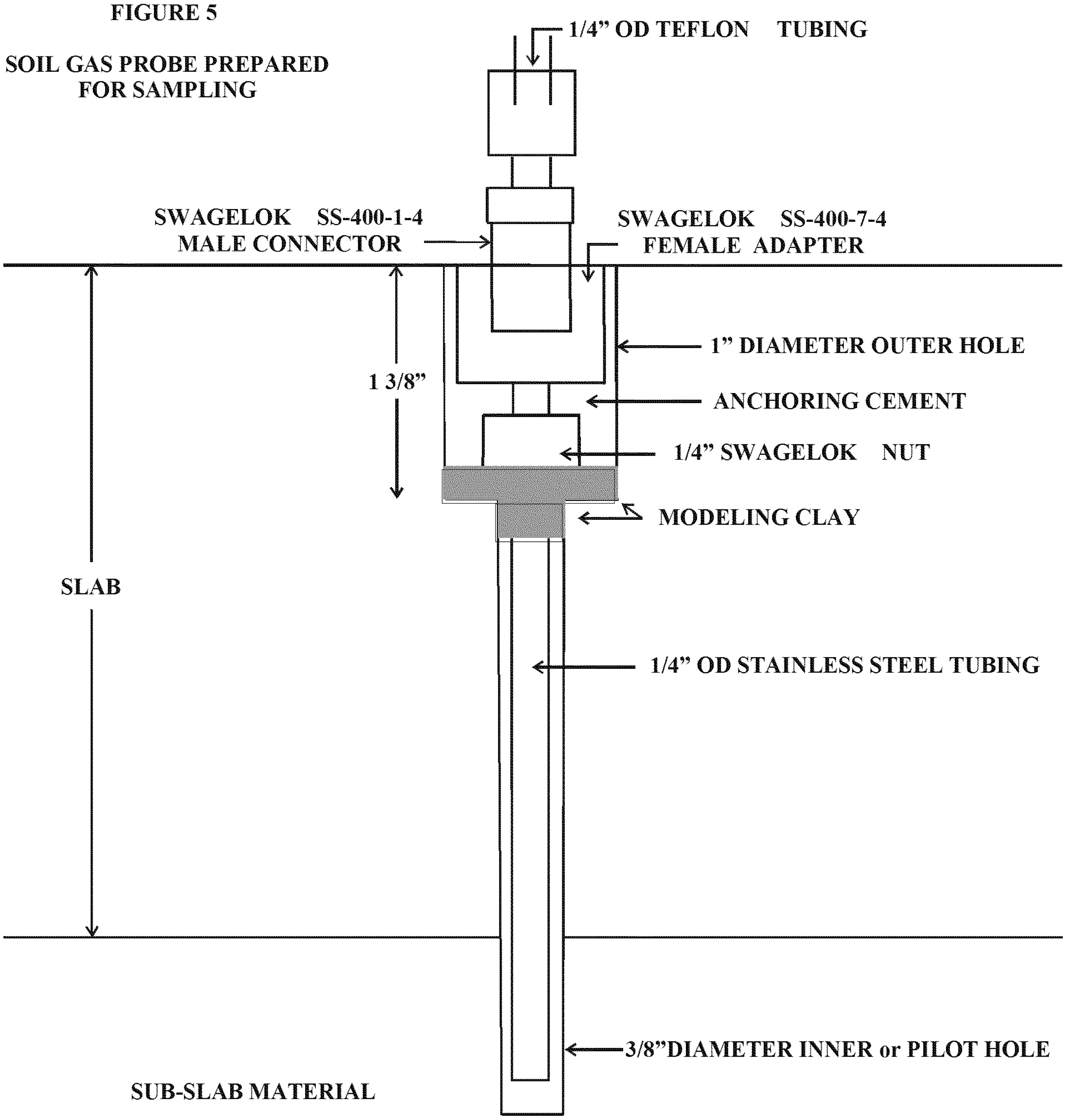


FIGURE 5

SOIL GAS PROBE PREPARED FOR SAMPLING

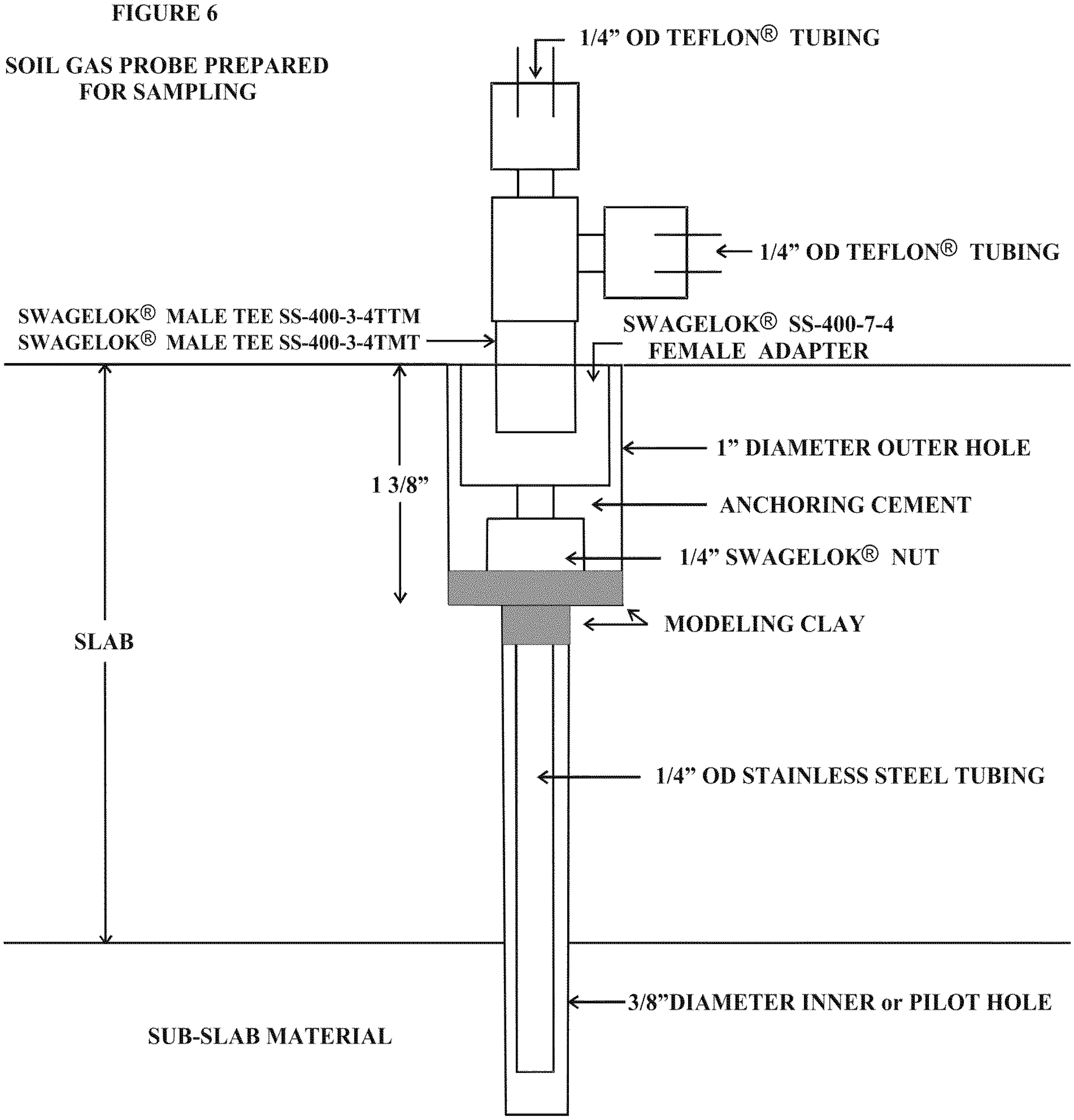


Response Engineering and Analytical Contract

STANDARD OPERATING PROCEDURES

FIGURE 6

SOIL GAS PROBE PREPARED FOR SAMPLING



APPENDIX K

ODH SCREENING LEVELS FOR SDDL SITE (JULY 6, 2012)

OHIO DEPARTMENT OF HEALTH

246 North High Street
Columbus, Ohio 43215

614/466-3543
www.odh.ohio.gov

John R. Kasich / Governor

Theodore E. Wymyslo, M.D. / Director of Health

June 20, 2012

Steven Renninger, On-Scene Coordinator
U.S. Environmental Protection Agency
Emergency Response Branch
26 West Martin Luther King Drive (G41)
Cincinnati, OH 45268

Dear Steve:

Per your request, ODH HAS is providing screening levels for the contaminants of concern in indoor air and sub-slab soil gas for properties at South Dayton Dump in Dayton, Ohio.

The values listed in the tables are expressed in micrograms per cubic meter ($\mu g/m^3$) and parts per billion (ppb). We prefer the use of ppb, as we believe it is more easily understood by the general public. Based on the Region 5 guidance, we are giving you both screening levels and action levels for assessing vapor intrusion sites:

Screening Levels are based on 10^{-5} cancer risk or hazard index of 1.0. Screening levels represent concentrations of a substance that are unlikely to cause harmful (adverse) health effects in exposed people. Detections in indoor air below these levels are not of a health concern. When available, our screening levels were taken from ATSDR's minimal risk levels (MRLs) and cancer risk evaluation guides (CREGs). Other sources include the U.S. EPA's reference concentrations (RfCs), regional screening levels (RSLs); and, in the case of cis-1,2-DCE, the 2002 OSWER Vapor Intrusion Guidance.

Action Levels are based on 10^{-4} cancer risk and hazard index of 10. Detections in indoor air that exceed this level would lead to a recommendation for actions to reduce exposure in a relatively short period of time. Detections below the action level, but above the screening level would be referred to the EPA Remedial program or to the state for evaluation.

Also included are corresponding values for non-residential buildings – spaces that are not used for residences or where children are not continuously present. Non-residential buildings include commercial businesses and public buildings, churches, non-manufacturing businesses, and industries where these chemicals are not used as part of the manufacturing process. The non-residential screening levels were derived by adjusting the residential values by a factor of 4.2 to adjust from a 168-hour week for the residential exposure to a 40-hour work week for the non-residential exposure.

For industrial settings were the chemicals in question are used, OSHA permissible exposure limits or other occupational exposure values would apply.

If you have any questions regarding these values, please contact John Kollman in my program at (614) 752-8335.

Thank you.

Sincerely,

Robert Frey, PhD
Chief, Health Assessment Section, Ohio Department of Health

RF/jk

Table 1. Screening Levels – South Dayton Dump

Chemical of Concern	*Residential*		*Source/Criteria*	*Non-residential*		*Source/Criteria*
	μg/m³	*ppb*		*μg/m³*	*ppb*	
Indoor Air Screening Levels						
1,1-Dichloroethane	15	3.7	EPA RSL/C/10^{-5}	63	16	EPA RSL/C/10^{-5} x 4.2
Benzene	1	0.4	CREG/C/10^{-5}	4	2	CREG/C/10^{-5} x 4.2
Chloroform	100	20	ATSDR/NC	400	80	ATSDR/NC
cis-1,2-Dichloroethylene	35	8.8	OSWER/NC	150	37	OSWER/NC x 4.2
Ethylbenzene	300	60	ATSDR/NC	1,300	250	ATSDR/NC x 4.2
Tetrachloroethylene (PCE)	40	6	EPA RfC	170	25	EPA RfC x 4.2
Trichloroethylene (TCE)	2	0.4	EPA RfC	10	2	EPA RfC x 4.2
m,p-Xylene*	200	50	ATSDR/NC	800	200	ATSDR/NC x 4.2
o-Xylene*	200	50	ATSDR/NC	63	16	ATSDR/NC x 4.2
Vinyl chloride	1	0.4	CREG/C/10^{-5}	4	2	CREG/C/10^{-5} x 4.2
Sub-slab Soil Gas Screening Levels						
1,1-Dichloroethane	150	37	EPA RSL/C/10^{-5} x 10	630	160	EPA RSL/C/10^{-5} x 10 x 4.2
Benzene	10	4	CREG/C/10^{-5} x 10	40	20	CREG/C/10^{-5} x 10 x 4.2
Chloroform	1,000	200	ATSDR/NC x10	4,000	800	ATSDR/NC x10 x 4.2
cis-1,2-Dichloroethylene	350	88	OSWER/NC x 10	1,500	370	OSWER/NC x 10 x 4.2
Ethylbenzene	3,000	600	ATSDR/NC x10	13,000	2,500	ATSDR/NC x10 x 4.2
Tetrachloroethylene (PCE)	400	60	EPA RfC x 10	1,700	250	EPA RfC x 10 x 4.2
Trichloroethylene (TCE)	20	4	EPA RfC x 10	100	20	EPA RfC x 10 x 4.2
m,p-Xylene*	2,000	500	ATSDR/NC x 10	8,000	2,000	ATSDR/NC x 10 x 4.2
o-Xylene*	2,000	500	ATSDR/NC x 10	8,000	2,000	ATSDR/NC x 10 x 4.2
Vinyl chloride	10	4	CREG/C/10^{-5} x 10	40	20	CREG/C/10^{-5} x 10 x 4.2

*ATSDR comparison value for total xylenes
μg/m³ = micrograms per cubic meter
ppb = parts per billion
C = cancer
NC = noncancer

10^{-5} = cancer risk of 1 in 100,000
CREG = cancer risk evaluation guide (ATSDR)\
RfC = EPA Reference Concentration
RSL = Regional Screening Level (EPA April 2012)

Table 2. Action Levels – South Dayton Dump

Chemical of Concern	*Residential*		*Source/Criteria*	*Non-residential*		*Source/Criteria*
	µg/m³	*ppb*		*µg/m³*	*ppb*	
Indoor Air Action Levels						
1,1-Dichloroethane	150	37	EPA RSL/C/10^{-4}	630	160	EPA RSL/C/10^{-4} x 4.2
Benzene	10	4	CREG/C/10^{-4}	40	20	CREG/C/10^{-4} x 4.2
Chloroform	1,000	200	ATSDR/NC x 10	4,000	800	ATSDR/NC x 10 x 4.2
cis-1,2-Dichloroethylene	350	88	OSWER/NC x 10	1,500	370	OSWER/NC x 10 x 4.2
Ethylbenzene	3,000	600	ATSDR/NC x 10	13,000	2,500	ATSDR/NC x 10 x 4.2
Tetrachloroethylene (PCE)	400	60	EPA RfC/NC x 10	1,700	250	EPA RfC/NC x 10 x 4.2
Trichloroethylene (TCE)	20	4	EPA RfC/NC x 10	100	20	EPA RfC/NC x 10 4.2
m,p-Xylene*	2,000	500	ATSDR/NC x 10	8,000	2,000	ATSDR/NC x 10 x 4.2
o-Xylene*	2,000	500	ATSDR/NC x 10	630	160	ATSDR/NC x 10 x 4.2
Vinyl chloride	10	4	CREG/C/10^{-4}	40	20	CREG/C/10^{-4} x 4.2
Sub-slab Soil Gas Action Levels						
1,1-Dichloroethane	1,500	370	EPA RSL/C/10^{-4} x 10	6,300	1,600	EPA RSL/C/10^{-4} x 10 x 4.2
Benzene	100	40	CREG/C/10^{-4} x 10	400	200	CREG/C/10^{-4} x 10 x 4.2
Chloroform	10,000	2,000	ATSDR/NC x 100	40,000	8,000	ATSDR/NC x 100 x 4.2
cis-1,2-Dichloroethylene	3,500	880	OSWER/NC x 100	15,000	3,700	OSWER/NC x 100 x 4.2
Ethylbenzene	30,000	6,000	ATSDR/NC x100	130,000	25,000	ATSDR/NC x100 x 4.2
Tetrachloroethylene (PCE)	4,000	600	EPA RfC/NC x 100	17,000	2,500	EPA RfC/NC x 100 x 4.2
Trichloroethylene (TCE)	200	40	EPA RfC/NC x 100	1,000	200	EPA RfC/NC x 100 x 4.2
m,p-Xylene*	20,000	5,000	ATSDR/NC x 100	80,000	20,000	ATSDR/NC x 100 x 4.2
o-Xylene*	20,000	5,000	ATSDR/NC x 100	80,000	20,000	ATSDR/NC x 100 x 4.2
Vinyl chloride	100	40	CREG/C/10^{-4} x 10	400	200	CREG/C/10^{-4} x 10 x 4.2

*ATSDR comparison value for total xylenes
µg/m³ = micrograms per cubic meter
ppb = parts per billion
C = cancer
NC = noncancer

10^{-4} = cancer risk of 1 in 10,000
CREG = cancer risk evaluation guide (ATSDR)\
RfC = EPA Reference Concentration
RSL = Regional Screening Level (EPA April 2012)

APPENDIX L

AIR SAMPLING FIELD DATA SHEET

BOWSER MORNER®

Air Sampling Field Log
Valley Asphalt Site, Moraine, Ohio

Address: ____________________

Owner's Name: ____________________

Telephone No: ____________________

Occupant's Name (if tenant)/ Telephone No.: ________ ________________________________

Is resident living in basement? Yes ☐ No ☐

Sample Type Sub-Slab ☐ Indoor Air ☐ Outdoor Air ☐ SSDS Effluent ☐

Sample ID ________________________________

Start Date/Time	Vacuum at Start	Outside Temp. °F	Barometric Pressure	ppbRAE VOC Conc.	SUMMA Canister ID	Regulator ID	Flow Controller ID

End Date/Time	Vacuum at End	Location of Sub-Slab Sample

Post-Purge/Pre-Sample Monitoring

Methane	LEL	O_2	CO_2	PID VOC	Helium Leak Test

Post-Sample Monitoring

Methane	LEL	O_2	CO_2	PID VOC	

PICTURES TO BE TAKEN:

Is resident living in basement? Yes No ☐

Sub-slab sample Yes No ☐

Indoor Air Sample Yes No ☐

Outside of residence (all 4 directions) Yes No ☐

IF HOUSE HAS A VAPOR ABATEMENT SYSTEM:

U-tube Manometer (inches water column) ______ (ideal is greater than 1)

Vacuum Reading (inches water column) ______ at location __________

Vacuum Reading (inches water column) ______ at location __________

Vacuum Reading (inches water column) _ ______ at location __________

(ideal digital manometer vacuum reading is at least 10.01

TYPE OF AIR SAMPLING Initial ☐ __-day post mitigation ☐ __-day post mitigation ☐ Quarterly Sample ☐

Other ____

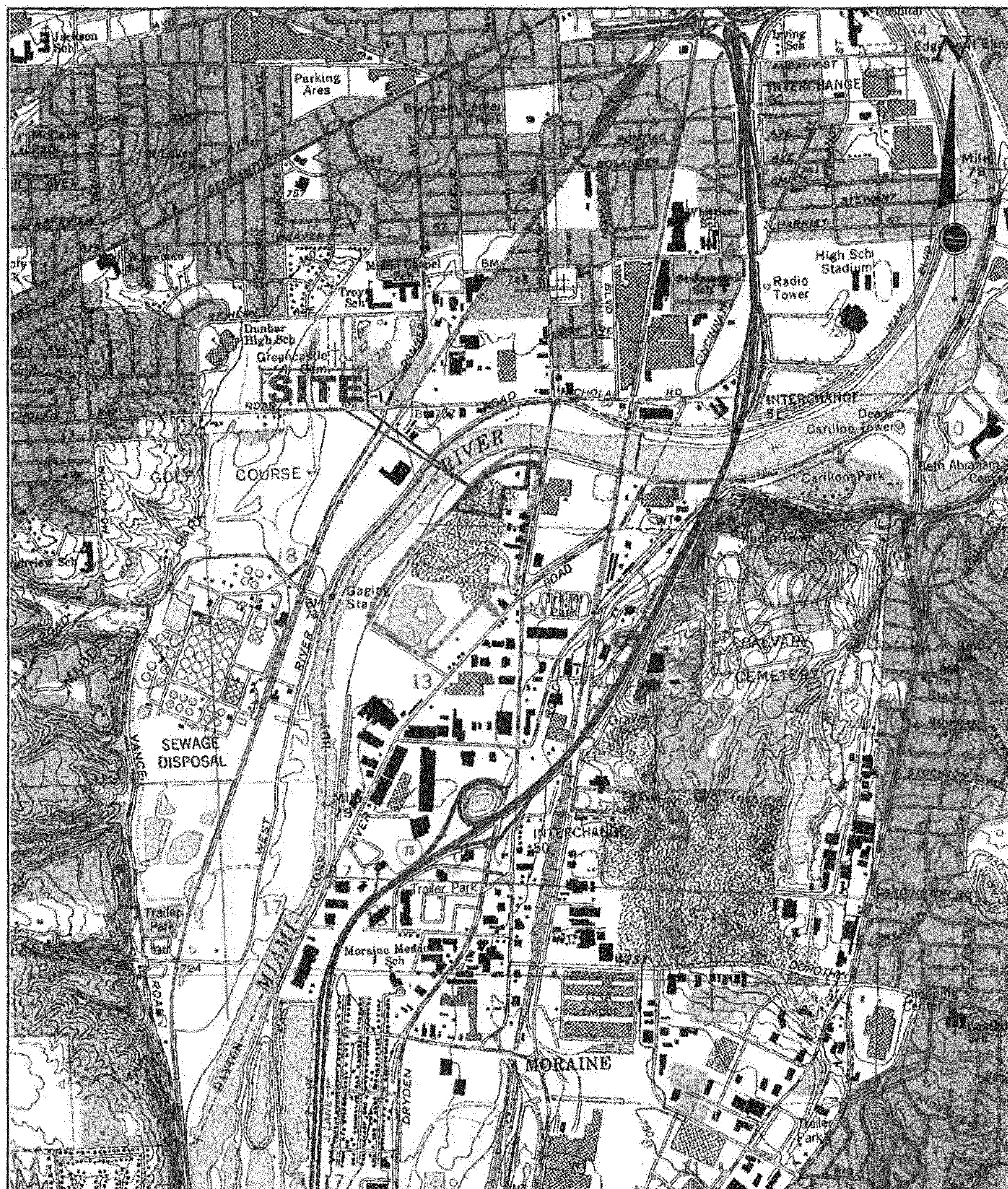
Comments:

____

____

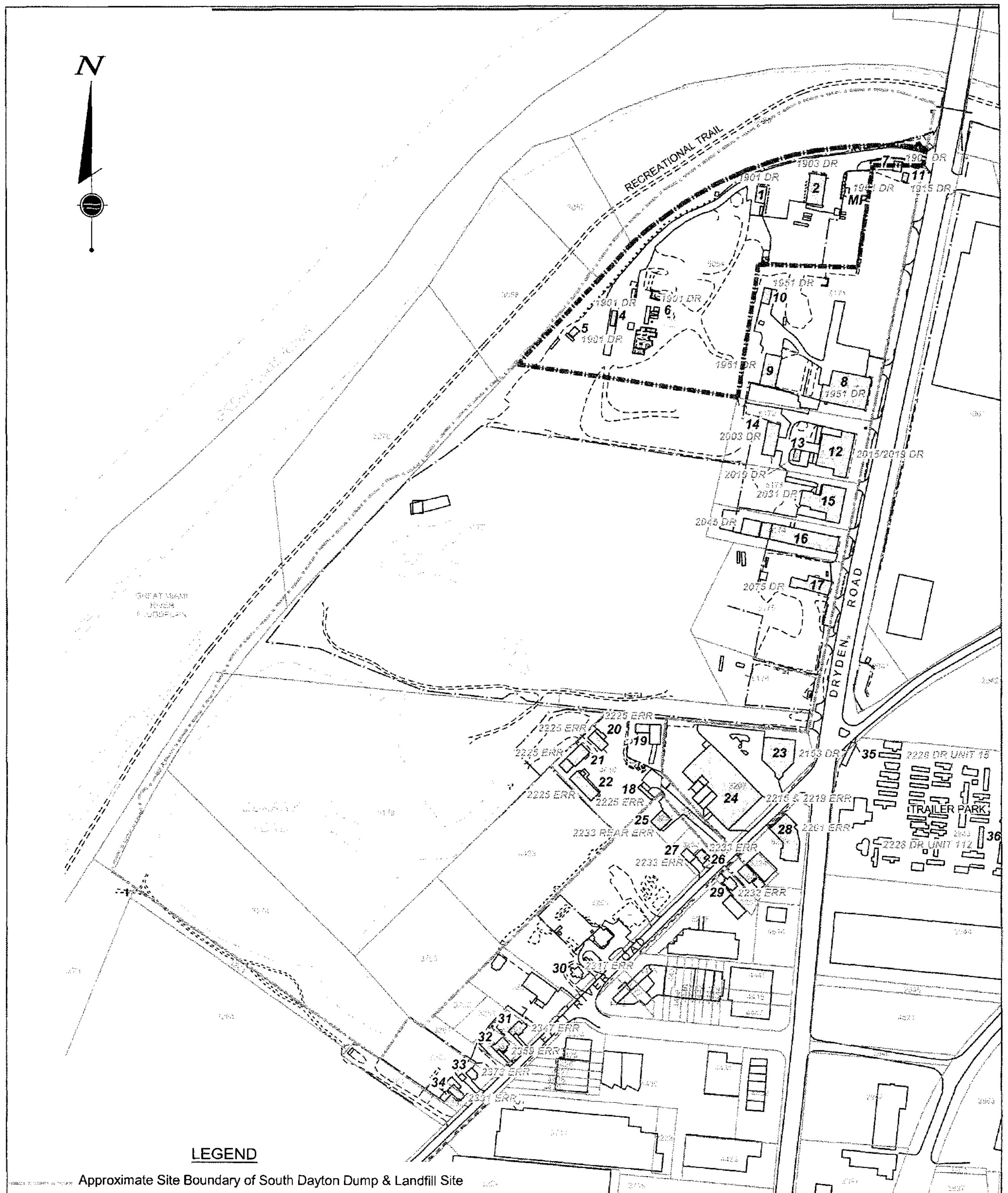
____

FIGURES



USGS QUAD: Dayton South, Ohio

Site Location Map 1901-1903 Dryden Road, Moraine, OH 04-13/SR	PROJECT NO. 161803 SCALE 1:2000 FIGURE NO. 1.1	BOWSER MORNER® 4518 Taylorsville Road Dayton, Ohio 45424 Ph 937-236-8805 Fax 937-233-2016



LEGEND

Approximate Site Boundary of South Dayton Dump & Landfill Site

Approximate Site Boundary of Valley Asphalt Site

Edge of Water

Parcel Boundary

ERR East River Road

DR Dryden Road

Parcel Number

1 USEPA Removal Program Building Number

2381 ERR Address

Note: 1901 Dryden Road Parcel 5054 Building Was Demolished in February 2012

Site plan provided by:

Approximate Boundary of Valley Asphalt Site

1901-1903 Dryden Road,
Moraine, OH

0 300 600
Graphic Scale In Feet

04-13/SR

PROJECT NO.	161803
SCALE	GRAPHIC
FIGURE NO.	1.2

BOWSER MORNER.
4518 Taylorsville Road
Dayton, Ohio 45424
Ph 937-236-8805
Fax 937-233-2016

ADDENDUM 1

Note:

In the June 20, 2013 teleconference, Valley Asphalt informed EPA that Valley was considering demolition of additional buildings as a cost-savings measure. Demolition of additional buildings would preclude the need to mitigate those buildings, as per the Unilateral Administrative Order dated March 22, 2013. Mr. Steve Renninger requested that all sections of the Work Plan (conditionally approved on May 23, 2013 and subsequently issued as Final on May 30, 2013) affected by the decision to decrease the number of buildings to be mitigated be updated to reflect those final business decisions.

During the June 27, 2013 teleconference, Mr. Dan Crago of Valley Asphalt, confirmed that additional buildings would be demolished and only Building 4 would be mitigated.

As a result, this addendum, Addendum #1, provides only those sections of the Work Plan that were modified because of the decision to demolish additional buildings and mitigate only one building. Any section not appearing in this addendum has not been modified; the reader is directed to the text provided in the May 30, 2013 Work Plan.

Addendum 1 was prepared by Valley Asphalt and Valley Asphalt is solely responsible for the content of Addendum 1.

Vapor Intrusion Mitigation Work Plan
Addendum #1

For

Valley Asphalt Property / South Dayton Dump & Landfill Site
Moraine, Ohio

Submitted to:
U.S. EPA, Region 5
Emergency Response Branch
Cincinnati, Ohio
OSC Steve Renninger

Report No. 161803-0413-099R2

July 1, 2013

3.1 SAMPLE COLLECTION

A sub-slab probe will be installed in Building 6. This probe will be installed and sampled in accordance with the EPA Response Engineering and Analytical Contract (REAC) SOP#2082 (Appendix J). The results of that investigation will determine whether mitigation of Building 6 is required.

Mitigation has been ordered for Buildings 1, 2, 4, 5, 7 and MP via the UAO. Valley has chosen to totally demolish Buildings 1, 2, 5, 7 and MP. Therefore, mitigation, including sample collection, will be performed on Building 4.

All SUMMA canisters used for indoor air sampling will be individually certified and all sub-slab samples will be batch certified (industrial and commercial buildings) by the analytical laboratory to ensure they are free of contamination before collecting the samples.

During sample collection, Valley will check each SUMMA canister periodically to ensure that the canister pressure has not reached zero; at a minimum, the canisters will be checked several hours before the end of the sampling period. In accordance with the sub-slab soil vapor sampling protocol (FSP), some residual vacuum should be left in each canister following sample collection. A minimum 1" Hg residual vacuum will be required for the sample to be considered valid, or the sampling will be repeated using a fresh SUMMA canister. In some instances, the canister pressure may decrease to below 5" Hg in less than the target amount of time. A SUMMA canister may be closed and sampling ended once the vacuum decreases below 5" Hg provided that at least 75 percent of the targeted sample time (i.e., 45 minutes for a 1-hour sample, 6 hours for an 8-hour sample, and 18 hours for a 24-hour sample) has elapsed. Provided the residual vacuum is a minimum of 1" Hg and the sample duration was at least 75 percent of the target duration, the sample will be considered a valid sample.

The target maximum residual vacuum is 5 inches of mercury (" Hg). If, after the required duration of sample collection (i.e., 8 hours for commercial and 24 hours for residential properties), the vacuum has not reached 5" Hg, the canister valve may be closed once the vacuum reaches a minimum of 10" Hg, as long as the specified duration of sample collection (i.e., 8 or 24 hours) has elapsed. This will be considered a valid sample.

If the vacuum has not reached 10" Hg and access to the building is ending for the day, Valley will notify EPA. If building access is provided for the following day, close the sample valve and record the canister vacuum and date. Return the following day, record the canister vacuum and date and complete sample collection. If building is not available for the following day, check with the laboratory if detection limits can be met and end sampling. If the detection limits cannot be achieved, re-sampling will be required.

A summary of the acceptable sample canister end pressures and times is provided in the following table:

TABLE 3

SUMMA CANISTER SAMPLING PROCEDURES

Duration of Sampling	Sample Canister Vacuum	Required Procedure
Less than 6 Hours	Less than or equal to 5" Hg	Invalid sample. Collect new sample with new canister.
More than 6 Hours	Less than or equal to 5" Hg	Acceptable sample. End sampling.
Less than 8 Hours	Less than 10" Hg	Continue sampling until vacuum reaches 5" Hg, or 8 hours have elapsed, whichever occurs first.
More than 8 Hours	Greater than 10" Hg	End sampling when vacuum reaches 10" Hg.
Building access issues necessitate an end to sampling	Greater than 10" Hg	Notify EPA. Check if building access is available the next day. If building access is available the next day: Record canister end vacuum and date, close sample valve. Record day 2 canister start vacuum and date, continue sample. If building access is not available the next day: end sampling and check with laboratory if required detection limits can be met.

In accordance with the SOPs, canisters will be labeled noting the unique sample designation number, date, time, and sampler's initials. A bound field logbook will be maintained to record all sampling data. The unique sample des ignation numbers will have the following format:

MC -161803-MMDDYY-XX-Nn

Where:

MC (Matrix Code)	– Designates sample type (SS - s ub-slab soil vapor; IA - indoor air; OA - outdoor air; CS - crawl space)
161803	– Project reference number
MMDDYYY	– Designates date of collection presented as month, day, year
XX	– Sampler's first and last initials
Nn	– Building number followed by sample location

Details of the sampling will be recorded within a standard field book and on an

Air Sampling Field Data Sheet Details should include:

SUMMA canister, flow controller and pressure gauge IDs
Sample start time and initial SUMMA canister pressure
Outside temperatures and barometric pressures
PID readings within the building
Helium leak test concentration
Sample end time and final SUMMA canister pressure
Unique sample designation number

If requested, a sub-slab sample and/or indoor air s ample will be collected where any new locations that may be identified as requiring sampl ing. Sub-slab samples will be collected from the soil vapor located beneath the concrete slab beneath the lowest level of the building.

Sampling will not be performed during storm events or within 48 hours of a significant rain event (i.e., greater than 1 inch of rain in a 24-hour period) because of the potential influence such conditions may have on indoor air, outdoor air , and sub-slab soil vapor. Information on weather conditions (including barometric pressure, air temperature, wind direction, and wind speed) in Moraine, Ohio, during the sampling event will be obtained from Weather Underground's website. In fine-grained soil condit ions, consideration will be given to allowing a greater amount of time for rainfall events to dissi pate. The vadose zone soil types at the site are mainly sand and gravel fill, with some silt and clayey silt. Valley field technicians, in consultation with EPA oversight consultants, will determine if more than 48 hours should be allowed to elapse following a significant rain event for probes in areas of fine grained soils.

3.2.1 PROFICIENCY AIR SAMPLING

To verify that the mitigation systems are operating to reduce indoor air concentrations of VI contaminants to less than applicable criteria, Valley will complete post-installation proficiency air sampling at 30 days, 180 days and 1 year following SSDS installation. The post-installation proficiency sampling will be comprised of three elements:

a. Collection and analysis of indoor air samples from each building mitigated;
b. Collection and analysis of outdoor samples adjacent to each building mitigated;
c. Collection and analysis of SSDS effluent samples from each building mitigated; and
d. Collection and analysis of sub-slab samples from each building mitigated.

Valley will collect air samples from the locations listed in Table 3, following system installation. Should the proposed sub-slab gas survey for Building 6 indicate that mitigation is necessary, that system will be included in the proficiency air sampling program.

TABLE 4
BUILDINGS REQUIRING MITIGATION AND PROFICIENCY SAMPLING

Parcel / Map Building Number	Address	Current Use
5054/4	1901 Dryden Road	Asphalt Plant control building

3.2.1.3 SSDS EFFLUENT SAMPLING

Immediately following installation of the SSDSs, Valley will collect one grab air sample of the effluent from the SSDS located in Building 4, which currently contains the highest sub-slab soil vapor concentrations of TCE. The sample will be collected and analyzed in accordance with procedures detailed below.

3.4 SUB-SLAB SOIL VAPOR PROBE SAMPLING

Sub-slab soil vapor probe installation and sampling, will be performed in accordance with the REAC SOP or by using vapor pins. For Building 4, with a surface area less than 1,500 square feet; only one sub-slab port exists and will be tested. T~~he back (storage) portion of Building 2 consists of approximately 3,500 square feet and currently contains a single sub-slab port. Depending on the SSDS design selection, up to six additional sub-slab ports may be installed and sampled.~~

Valley will complete leak testing prior to sub-slab soil vapor probe sample collection by injecting helium into a shroud covering the sub-slab probe, and monitoring for the presence of helium in the purged sub-slab soil vapor using a field meter.

Valley will purge stagnant air from the sub-slab soil vapor probes into Tedlar bags using a lung box sampler and pump. Valley will purge one to two liters of sub-slab soil vapor from the probe assembly, into a Tedlar bag. One liter of sub-slab soil vapor will be greater than three volumes from the sub-slab soil vapor probe assembly (probe and attached Teflon® tubing). This ensures that the sub-slab soil vapor sample is representative of actual vapor concentrations within the sub-slab bedding material.

In order to assess susceptibility of soil gas entry into a building, Valley will use a ppbRAE (or equivalent) and LandTec GEM 2000, or equivalent, to directly survey preferential pathways for vapor migration (i.e. utility penetrations, cracks, sumps, floor drains, earthen floors, etc.). Readings will be recorded on the Air Sampling Field Data Sheet (Appendix L).

Information on weather conditions (including barometric pressure, air temperature, wind direction, and wind speed) in Dayton, Ohio during the sampling event will be obtained from the National Weather Service Forecast Office or National Climatic Data Center website and will be recorded on the Air Sampling Field Data Sheet.

4.0 MITIGATION PLAN

One of the primary objectives of the VI Mitigation Activity is to design and install a vapor mitigation system in on-Site non-residential (i.e., commercial) structures impacted by subsurface gas mitigation, if the concentration(s) of COC(s) exceed ODH sub-slab or indoor air screening levels and the presence of the COC(s) is determined to be a result of vapor intrusion. Section 4.6 presents a summary of all buildings sampled during the VI Investigation and the associated mitigation decisions. The "Mitigation Summary Database" Excel file used to track the progress of mitigation is a living document, and the version current as of the date of Work Plan, is included as Appendix F. This document will be updated as needed throughout the VI Mitigation Activity in order to reflect the status of the mitigation and any new information received.

Valley proposes to demolish Buildings 1, 2, 5, 7 and MP following results of asbestos and lead sampling. Demolition will follow local codes/permits including management of debris. Therefore, Valley will focus mitigation activities just building 4. Currently, mitigation activities are not planned for Building 6; sub-slab monitoring will determine the appropriate course of future action.

Beginning on May 2, 2013, EPA, EPA's START contractor, Valley and Bowser Morner will participate in weekly update conference calls regarding the Mitigation Summary Database and next steps. Appendix G presents the meeting agenda and meeting minute templates for the weekly conference calls.

The abatement system will include installation of a SSDS, sealing cracks in walls and floors of the basement or lowest building floor, and sealing drains that could be a pathway. ~~Building 2, the only structure with sub-slab methane concentrations greater than 0.5 percent by volume, will require an intrinsically safe SSDS. The selected intrinsically safe devices will be designed to prevent the release of sufficient energy, by either thermal or electrical means, to cause ignition of flammable gasses. The selected device(s) will bear the appropriate marking (Factory Mutual CSA, Ex, etc.).~~ Active SSDSs will be designed and installed in the specified buildings to reduce potential indoor air inhalation issues. This is achieved by creating a lower air pressure beneath the floor slab than above the floor slab. Valley will work closely with an ODH Licensed Radon Contactor (Environmental Doctor) who will be responsible for ensuring proper installation and operation of the systems. The scope of the work for the SSDSs will include:

Task 1 – Conduct a building inspection / engineering evaluation.

Task 2 – Design SSDS and submit designs to EPA for approval.

Task 3 – Install SSDS

Task 4 – Develop a Mitigation Proficiency Sampling Plan

Task 5 – Perform Proficiency Sampling and Annual Inspections/Maintenance.

7.0 PROJECT SCHEDULE

Task	Schedule
Weekly Mitigation Status update conference calls with EPA and Respondents	Thursdays at 3:00 pm
Work Plan Due Date	April 26 ,2013
Revised Work Plan Due Date	May 15, 2013
Written notification to EPA of new contractors and/or subcontractors	At least 5 days prior to commencement of Work
Conduct Asbestos and Lead field surveys	May 15, 2013
Demolish Buildings 1, 2, 5, 7 and MP.	July 31, 2013
Initiate Section 4.0 tasks	Within 5 working days of Work Plan approval
Conduct building inspections / engineering evaluations	Anticipated date: week of May 20, 2013
Obtain quotes from licensed radon mitigation companies	Within 1 week of completion of building inspection
Select licensed radon mitigation company	Within 1 week of receipt of quotes
Design sub-slab depressurization system	Within 3 weeks of completion of building inspection / engineering evaluation and Ohio licensed radon subcontractor procurement
Install and sample SS probe in Building 6	Within 4 weeks after EPA approval of work plan
Install SSDS in Building 4 (including additional SS probes, if indicated	Within 4 weeks of completion of design of sub-slab depressurization system (Scheduled for July 10)
Install SSDS in Building 6 (if necessary based on sample results)	Within 4 Weeks of receipt of sampling data. No later than September 30,2013.
Implement Mitigation Proficiency Sampling Plan	Within 30-days of installation of sub-slab depressurization system
Monthly Progress Reports	30 days after approval of Work Plan, until termination of UAO
Oral notification of any delay in performance of UAO Obligations	Within 24 hours
Written notification of any delay in performance of UAO obligations	Within 7 days thereafter
O&M Manual submission to EPA	Within 60 days of SSDS start-up
Annual SSDS Inspections	Complete within 30 days of installation date anniversary each year (2014, 2015,

Task	Schedule
	etc).
Proficiency indoor air sampling (new SSDS installations)	30, 180, and 365 days post-installation
Proficiency air sampling (sub-set of systems)	Beginning 2 years following SSDS installation
Submission of Corrective Action Plan	Within 30 days of receiving sub-slab or indoor air sampling results that are greater than ODH screening levels
SSDS Upgrades	Within 30 days of receiving validated proficiency air sampling analytical results
Indoor air and sub-slab proficiency samples following completion of SSDS Upgrades (if required)	Within 30 days of completion of system modifications
Provision of analytical results and corresponding evaluation to EPA following each sampling event	Within 30 days of receiving the complete set of final analytical results
Final Report summarizing actions completed to comply with UAO	Within 60 days of completion of all work specified in Section V of the UAO (i.e., following completion of proficiency indoor air sampling for new SSDS installations)

ADDENDUM 2

BOWSER MORNER®

Vapor Intrusion Mitigation Work Plan
Addendum #2 - Asbestos and Lead Paint
Management Plan

For

Valley Asphalt Property / South Dayton Dump &
Landfill Site Moraine, Ohio

Submitted to:
U.S. EPA, Region 5
Emergency Response Branch
Cincinnati, Ohio
OSC Steve Renninger

Report No. 161803-0613-154

June 27, 2013

BOWSER MORNER®

1.0 BACKGROUND INFORMATION

Bowser-Morner Inc. prepared this Addendum on behalf of Valley Asphalt, Respondent to the Removal Unilateral Administrative Order (UAO) issued by U.S. EPA (EPA) on March 22, 2013. Vapor intrusion mitigation has been ordered for Buildings 1, 2, 4, 5, 6, 7 and MP via the UAO. Valley has elected to demolish several buildings to eliminate the vapor intrusion hazard. This Addendum is the Asbestos and Lead Paint Management Plan which will be followed for each structure that will be demolished by Valley.

2.0 ASBESTOS MANAGEMENT

Asbestos management will be in accordance with ORC 3710 and OAC 3701-34.

2.1 ASBESTOS SURVEY

An asbestos survey will be conducted by Asbestos Hazard Evaluation Specialist, certified by Ohio Department of Health. The asbestos survey will consist of the following elements:

Identify the possible asbestos-containing materials (ACMs) inside and outside the building;

Collect three representative samples of each unique material identified, if possible;

Label, package and ship samples under Chain of Custody;

Analyze samples using Polarized Light Microscopy (PLM) per EPA Method 600/M4-82/020. Additional Point Count analyses may be performed as indicated.

Summarize analytical data received from laboratory.

2.2 ASBESTOS ABATEMENT

Asbestos abatement will consist of the following tasks:

Solicit proposals from certified asbestos abatement contractors;

Select certified asbestos abatement contractor;

Perform asbestos abatement, using standard work practices, prior to demolition of each building, including obtaining required permits, submitting required notifications and ACM removal activities.

2.3 ASBESTOS WASTE DISPOSAL

Asbestos wastes will be managed by the asbestos abatement contractor, as follows:

Asbestos waste will be placed directly in appropriate containers;

Asbestos waste will be transported, under manifest, to Stony Hollow Recycling and Disposal Facility, 2460 South Gettysburg Avenue, Dayton OH 45559.

3.0 LEAD PAINT MANAGEMENT

Lead paint management will be in accordance with best management practices.

3.1 LEAD PAINT SURVEY

A lead paint survey will be conducted by the Asbestos Hazard Evaluation Specialist(s) at the time the asbestos survey is performed. The lead paint survey will consist of the following elements:

Visually identify each unique type of paint on building elements both inside and outside the building;

Collect a representative sample of each unique type of paint identified, if possible;

Label, package and ship samples under Chain of Custody;

Analyze samples using EPA Method SW846 7000B.

Summarize analytical data received from laboratory.

3.2 LEAD PAINT HANDLING

Lead paint handling will consist of the following tasks:

Remove building elements that have been confirmed to be painted with lead paint;

Place building elements with lead paint into designated container; stage until disposal (discussed in Section 3.3, below).

Sweep and containerize paint chips generated from removal of lead paint building elements. Collect representative sample of paint chips;

Label, package and ship paint chip sample under Chain of Custody;

Analyze paint chip samples with the toxic characteristic leaching procedure (TCLP) for lead;

Assess TCLP lead results for identification of hazardous waste.

3.3 LEAD PAINT DISPOSAL

Lead paint found on building elements will be managed, as follows:

Building elements confirmed to have lead paint will be transported, with shipping papers to a local licensed CD & D landfill such as Vance Environmental (2101 Vance Rd - Dayton, OH 45418, CID: 54278);

Lead paint waste found to fail the TCLP test for lead will be managed as a hazardous waste

4.0 RECORD-KEEPING

All documents related to the Asbestos and Lead Paint Management Plan and its implementation will be stored with the VI Mitigation Plan dated May 30, 2013.

ABSTRACT

INDEX INFORMATION

CLIENT:	Valley Asphalt Corporation
REPORT DATE:	July 8, 2013
REPORT NO.:	161803-0413-099R3
CITY:	Moraine
STATE:	Ohio
COUNTY:	Montgomery
DESCRIPTION:	099R3 / Vapor Intrusion Mitigation Work Plan
PHASE CODE:	122758
DIVISION:	
PHONE:	
FAX:	

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